S. HRG. 99-97, PT. 3

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

ON

H.R. 3011

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1986, AND FOR OTHER PURPOSES

PART 3—(Pages 1-908)

Department of Energy
Department of Health and Human Services
Department of the Interior
Nondepartmental Witnesses
U.S. Holocaust Memorial Council

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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

THURSDAY, MAY 2, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:10 p.m., in room SD-138, Dirksen Senate Office Building, Hon. J. Bennett Johnston, presiding.

Present: Senator Johnston.

DEPARTMENT OF THE INTERIOR

TERRITORIAL AND INTERNATIONAL AFFAIRS

TERRITORIAL WITNESSES

STATEMENTS OF:

HON. RON de LUGO, DELEGATE IN THE HOUSE OF REPRESENTATIVES FROM THE TERRITORY OF THE VIRGIN ISLANDS

HON. FOFO I.F. SUNIA DELEGATE IN THE HOUSE OF REPRESENTATIVES FROM THE TERRITORY OF AMERICAN SAMOA

HON. BEN BLAZ, DELEGATE IN THE HOUSE OF REPRESENTATIVES FROM THE TERRITORY OF GUAM

OPENING REMARKS

Senator JOHNSTON. Good afternoon. This is the time scheduled to review the fiscal year 1986 budget request for the Office of Territorial and International Affairs.

For the "Administration of territories" account, OTIA has requested $61,333,000, a decrease of $14,224,000 or 19 percent from the 1985 appropriated level; and for the "Trust Territory of the Pacific Islands" account, OTIA has requested $13,500,000, a decrease of $85,295,000 or 86 percent from the fiscal year 1985 appropriated level. OTIA is basing its request on the assumption that Congress will complete work on the compact of free association for the Federated States of Micronesia and the Republic of the Marshalls Islands before the beginning of fiscal year 1986. The fiscal year 1986 funding request for the compact is $229 million.

We will begin this afternoon by taking brief testimony from our territorial delegates, Congressman Ron deLugo, Congressman Fofo I.F. Sunia, and Congressman Ben Blaz.

Following the Congressmen, we will question each of the territory and trust territory governments, starting with Guam, then American Samoa, then the Commonwealth of the Northern Marianas, then the Federated States of Micronesia, the Republic of the Marshall Islands, the Republic of Palau, and finally the Virgin Islands.

We will then review the 1985 budget request and other ongoing territorial matters with the Assistant Secretary for Territorial and International Affairs, Mr. Richard Montoya.

As always, it is a pleasure to welcome my three colleagues from the House of Representatives who represent the Virgin Islands, American Samoa, and Guam.

PREPARED STATEMENTS

We have, as you can tell, an exceedingly full schedule this afternoon, so I want to urge our friends to be brief, and of course, the full written statements will be put into the record.

Gentlemen, it is a special pleasure to welcome you to the committee, and we'll start with Ron de Lugo.

[The statements follow:]

STATEMENT OF RON DE LUGO

THANK YOU FOR THIS OPPORTUNITY TO APPEAR BEFORE YOU TODAY. WITH ME TODAY ARE GOVERNOR JUAN LUIS OF THE VIRGIN ISLANDS, AND EXECUTIVE DIRECTOR OF THE VIRGIN ISLANDS PORT AUTHORITY, JOHN HARDING.

AS CHAIRMAN OF THE TERRITORIAL CAUCUS, I WOULD LIKE TO MAKE A FEW GENERAL STATEMENTS ON BEHALF OF THE U.S. TERRITORIES AND COMMONWEALTHS PRIOR TO HIGHLIGHTING POINTS RELATING TO MY OWN DISTRICT, THE VIRGIN ISLANDS. AS USUAL, IT IS A PLEASURE TO BE HERE.

THE CUTS IN NATIONAL PROGRAMS REQUESTED BY THE PRESIDENT IN HIS FISCAL 1986 BUDGET REQUEST STRIKE WITH PARTICULAR SEVERITY IN THE INSULAR AREAS. THE ISLAND ECONOMIES WILL BE HARD PRESSED TO RESPOND TO THE INCREASED DEMANDS ON LOCAL FUNDING NEEDED TO OFFSET FEDERAL PROGRAM REDUCTIONS. THE INSULAR AREAS EXPECT TO SHARE IN THE PROGRAM CUTS WHICH THE COUNTRY MUST ACCEPT IN THE FACE OF AN EXPANDING NATIONAL DEFICIT, BUT PARTICULARLY DISCONCERTING IS THE FACT THAT THE PRESIDENT'S BUDGET REFLECTS A DECISION TO ALLOCATE A GREATER PROPORTIONATE SHARE OF FEDERAL CUTS TO THE INSULAR AREAS. THERE IS NO DISCRETIONARY ASSISTANCE FOR THE VIRGIN ISLANDS IN THE PRESIDENT'S BUDGET, ASSISTANCE TO GUAM IS VIRTUALLY NON-EXISTENT, AND THE HOUSING DEVELOPMENT FUND FOR AMERICAN SAMOA IS DISCONTINUED.

UNFORTUNATELY, THE PRESIDENT'S BUDGET PROPOSAL FOR THE INSULAR AREAS SUGGESTS A GREATER COMMITMENT TO REDUCING SPENDING LEVELS THAN TO BALANCING THIS IMPERATIVE WITH THIS COUNTRY'S PREVIOUS COMMITTMENT TO ITS TERRITORIES AND COMMONWEALTHS. THE ADMINISTRATION ATTEMPTS TO JUSTIFY THIS POSITION BY CITING THE FAILURE OF INSULAR GOVERNMENTS TO SPEND SOME OF THE PREVIOUS APPROPRIATIONS MADE. THIS IGNORES THE FACT THAT NEEDS PERSIST. INSTEAD IT SUGGESTS THAT THE INSULAR AREAS REQUIRE MORE TECHNICAL

ASSISTANCE FROM THE ADMINISTRATION IN ADDRESSING THEIR DEVELOPMENTAL NEEDS.

THE U.S. TERRITORIES AND COMMONWEALTHS HAVE COME A LONG WAY IN THE PAST FEW DECADES. IT IS, HOWEVER, UNREALISTIC TO SUGGEST THAT OUR ECONOMIES ARE NOW ABLE TO SUPPORT A GREATER SHARE OF THE COST OF GOVERNMENT. THE VIRGIN ISLANDS IS REELING FROM THE LAYOFF OF 300 EMPLOYEES AT THE HESS OIL REFINERY, AND MARTIN MARIETTA ALUMINA'S PLANS TO CLOSE IN JULY, SENDING AN ADDITIONAL 500 PERSONNEL TO THE EMPLOYMENT LINES. THE INSULAR AREAS GENERALLY, ARE STILL STRIVING TO ACHIEVE CREDIBLE ECONOMIC STABILITY. ANY CLAIM THAT THEY HAVE THE FLEXIBILITY TO WEATHER MARKET CHANGES OR RADICAL REDUCTIONS IN FEDERAL AID IS PREMATURE.

MEANWHILE, THE ADMINISTRATION PROPOSES CONSIDERABLE FINANCIAL ASSISTANCE TO THE MARSHALL ISLANDS AND THE FEDERATED STATES OF MICRONESIA AS FREELY ASSOCIATED STATES UNDER THE COMPACT OF FREE ASSOCIATION. THE AID WILL COVER PROGRAMS SUCH AS ECONOMIC DEVELOPMENT, INFRASTRUCTURE, AND ALTERNATIVE ENERGY, ALL OF WHICH HAVE BEEN REQUESTED BY THE U.S. INSULAR AREAS. FURTHER, TAX AND TRADE INCENTIVES PREVIOUSLY RESERVED FOR THE U.S. INSULAR AREAS ARE TO BE EXTENDED TO THE FAS, CREATING DIRECT COMPETITION FOR THE LIMITED OFFSHORE INDUSTRY. EACH OF THE INSULAR DELEGATES HAVE MADE CLEAR THEIR SUPPORT FOR THE ASSISTANCE PROVIDED TO THE FAS UNDER THE COMPACT, BUT THE MESSAGE SENT TO OUR CONSTITUENTS IS A HARD ONE TO COUNTER. THERE APPEARS TO BE MORE INTEREST ON THE PART OF THE ADMINISTRATION IN THE FUTURE OF TERRITORIES WHICH HAVE CHOSEN INDEPENDENCE THAN THERE IS IN THE DEVELOPMENT OF THOSE WHICH ARE PART OF THIS COUNTRY.

THE HOUSE INTERIOR AND INSULAR AFFAIRS COMMITTEE HELD HEARINGS TO REVIEW THE PRESIDENT'S BUDGET REQUEST, AND HEARD TESTIMONY FROM THE ADMINISTRATION AND INSULAR REPRESENTATIVES. AS A RESULT OF THE TESTIMONY HEARD AT THOSE HEARINGS, COUPLED

WITH THE SPECIAL KNOWLEDGE OF INSULAR MATTERS WHICH A NUMBER OF THAT COMMITTEES' MEMBERS HAVE, CHANGES WERE MADE. THE BUDGET REPORTED OUT OF THAT COMMITTEE REFLECTS A MINIMUM REASONABLE RESPONSE TO THE NEEDS OF THE INSULAR AREAS. I WOULD JUST LIKE TO HIGHLIGHT THOSE PROVISIONS MADE FOR THE VIRGIN ISLANDS.

THE PRIORITY FOR THE VIRGIN ISLANDS IS THE EXTENSION OF THE ST. CROIX AIRPORT RUNWAY TO 10,000 FEET. THE RUNWAY EXTENSION WILL ALLOW THE VIRGIN ISLANDS TO COMPETE WITH OTHER CARIBBEAN ISLANDS WHICH ARE NOW ABLE TO ATTRACT THE CANADIAN AND EUROPEAN TOURIST MARKETS. IT WILL ALSO GIVE THE VIRGIN ISLANDS GREATER ACCESS TO THE MIDWEST AND WEST COAST. VIRGIN ISLANDERS RECOGNIZE THAT TOURISM WILL ALWAYS BE OUR MAIN INDUSTRY. PLANS FOR NEW HOTELS ON ST. CROIX ARE CONSISTENT WITH THIS REALIZATION, AND WILL HELP TO OFFSET THE IMPACT OF PLANT CLOSINGS. BUT THE ISLANDS MUST BE ABLE TO ASSURE A GROWING MARKET.

THE ST. CROIX AIRPORT COULD ALSO SERVE AS A HUB, ACTING AS A SUPPLEMENT TO THE SERVICE PROVIDED BY THE PUERTO RICO AIRPORT. THE TOURIST INDUSTRY OF THE WHOLE REGION WOULD BENEFIT. IN ADDITION, INDUSTRY LOCATING IN THE EASTERN CARIBBEAN AS A RESULT OF THE CARIBBEAN BASIN INITAITIVE COULD USE THE ST. CROIX AIRPORT AS A TRANSSHIPMENT POINT IN CONJUCTION WITH THE CONTAINER PORT RECENTLY OPENED ON ST. CROIX.

LAST YEAR CONGRESS APPROVED $450,000, WHICH WAS MATCHED BY $150,000 IN LOCAL FUNDS, TO DEVELOP THE ENGINEERING AND CONSTRUCTION PLANS FOR THE AIRPORT PROJECT. THIS YEAR I ASK YOUR SUPPORT FOR EXECUTION OF THE PLANS.

PUBLIC LAW 98-454 AUTHORIZES 8 MILLION DOLLARS FOR THIS PROJECT. THE BUDGET REPORTED OUT OF THE HOUSE INTERIOR AND INSULAR AFFAIRS COMMITTEE INCLUDES 4 MILLION DOLLARS FOR THE PROJECT FOR THE COMING FISCAL YEAR. I RECOGNIZE THAT THE

Appropriations Committee would find it difficult to make an outright grant to the Virgin Islands for the St. Croix airport. Instead, I propose a long-term, low interest loan to the Virgin Islands to be paid back out of the yearly Airport Improvement Plan funds paid to the Virgin Islands. Since the project is expected to generate additional revenues, the almost one million dollars per year generated by St. Croix's current enplanements should increase. While use of these funds to pay off this loan will require some modification of the parameters for use of AIP funds, I believe the necessary accommodation can be worked out.

Mr. Harding is here today to answer any questions you may have about the St. Croix airport project.

Also included for the Virgin Islands in the budget report is 1.2 million dollars for the Eastern Caribbean Center at the College of the Virgin Islands. The funds would be used to further this territory's commitment to providing the educational and technical aspect of the United States initiative in the Caribbean. Specifically, the appropriation would be used to carry forward pilot and demonstration projects being developed through the technical assistance funds Congress provided to the Center in the last year. I expect the necessary authorization for this appropriation considered by the House Interior and Insular Affairs Committee in the near future.

Finally, I ask the Subcommittee's support for the increase in technical assistance provided in the budget report. Given the impact of layoffs at Hess and Martin Marietta which I noted above, the Virgin Islands is in particular need of technical assistance for private sector development. This assistance would help local entrepreneurs to tap private lending sources, as well as to develop their market potential.

ADDITIONALLY, THE VIRGIN ISLANDS NEEDS TECHNICAL ASSISTANCE RESPONDING TO THE LOCAL CRIME SITUATION. APART FROM THE FACT THAT OUR DEVELOPMENT GOALS WILL SUFFER IF THE CRIME RATE IS NOT REDUCED, THE COMMUNITY IS GETTING INCREASINGLY FRUSTRATED BY THIS THREAT TO ITS SAFETY. THE LOCAL GOVERNMENT NEEDS HELP IN HANDLING WHAT IS BECOMING MORE LIKE A METROPOLITAN PUBLIC SAFETY PROBLEM THAN ANY OF US TEND TO ASSOCIATE WITH SMALL TROPICAL ISLANDS.

THIRDLY, THE VIRGIN ISLANDS SEEKS TECHNICAL ASSISTANCE, AS IT HAS IN THE PAST, FOR FINANCIAL PLANNING AND TAX COLLECTION. THE DEPARTMENT OF INTERIOR HAS REVIEWED BOTH OF THESE MATTERS, AND SEEMS TO AGREE THAT THEY ARE PRIORITIES FOR THE LIMITED TECHNICAL ASSISTANCE RESOURCES. UNFORTUNATELY, THE ASSISTANCE HAS NOT MATERIALIZED AS YET.

I THANK YOU FOR YOUR ATTENTION, AND HOPE THAT THE SUBCOMMITTEE CAN SUPPORT MY REQUESTS. I WILL BE HAPPY TO WORK WITH YOU TO PROVIDE ANY BACKGROUND WHICH YOU FEEL MAY BE NEEDED ON ANY OF THE PROJECTS DESCRIBED FOR THE INSULAR AREAS.

I WOULD NOW LIKE TO TURN OVER TO GOVERNOR LUIS, AND MR. HARDING FURTHER TESTIMONY REGARDING THE VIRGIN ISLANDS.

Statement of Fofo I.F. Sunia

THANK YOU FOR THE OPPORTUNITY TO TESTIFY BEFORE THE COMMITTEE THIS AFTERNOON. AND MAY I TAKE THIS OPPORTUNITY TO EXPRESS MY GRATITUDE TO YOU FOR THE ATTENTION YOU AND YOUR STAFF CONTINUE TO DIRECT TO THE PROBLEMS OF THE TERRITORIES?

AS HAS BEEN USUAL IN THE YEARS SINCE I HAVE HAD THE HONOR TO BE LEAD WITNESS FOR THE BUDGET PRESENTATION OF AMERICAN SAMOA, I WISH TO DEFER TO MY GOVERNOR, WHOM I WILL HAVE THE HONOR IN A SHORT WHILE TO INTRODUCE FORMALLY TO YOU. HOWEVER, THERE ARE A FEW ITEMS WHICH I WOULD LIKE TO SPEAK TO.

FIRST, AMERICAN SAMOA IS NOW UNDER A NEW ADMINISTRATION. BEFORE THE LAST ONE LEFT OFFICE, CERTAIN ACTS WERE APPROVED AND INITIATED WHICH HAVE CLEARLY RESULTED IN THE NEED FOR ADDITIONAL FUNDS IN THE AREA OF OPERATIONS. THE GOVERNMENT OF AMERICAN SAMOA IS REQUESTING THESE ADDITIONAL FUNDS. I URGE YOUR FAVORABLE CONSIDERATION. WITH YOUR APPROVAL, I ASK AS A MEMBER OF CONGRESS, THAT YOU ADD LANGUAGE IN THE REPORT THAT WOULD EXPLAIN IN NO UNCERTAIN TERMS TO THE GOVERNMENT OF AMERICAN SAMOA THAT IT CANNOT CONTINUE TO PERFORM IN THE OLD FASHION. FORTUNATELY, GOVERNOR LUTALI UNDERSTANDS THIS POINT.

DURING THE FOURTH WEEK OF DECEMBER 1984, THE ONLY COMMERCIAL BOAT SERVING THE ISLANDS OF MANU'A IN AMERICAN SAMOA RAN AGROUND AND HAS SINCE BEEN DECLARED A TOTAL LOSS. THE MANU'A ISLANDS ARE LOCATED 60 MILES FROM PAGO PAGO. TO MOVE PEOPLE AND SUPPLIES, THE GOVERNMENT HAS HAD TO DISPATCH A WORLD WAR II LANDING CRAFT ABOUT EVERY TWO WEEKS. BY FEDERAL REGULATION AND BECAUSE OF THE CONDITION OF THE BOAT, THE COAST GUARD REFUSED TO CERTIFY IT FOR THE TRANSPORTATION OF PEOPLE. I BELIEVE IT HAS BEEN PROVED BEYOND DOUBT THAT COMMERCIAL OPERATORS CANNOT SUSTAIN THESE OPERATIONS. THE ANSWER I BELIEVE LIES IN THE GOVERNMENT'S PROVIDING AT INTERVALS THE SERVICES OF A BOAT THAT IS SAFE AND RIGHT FOR THE TYPE OF ISLAND-TO-ISLAND TRANSFERS. THE ABSENCE OF A COMMERCIAL VESSEL AND THE CURRENT CONDITION OF THE GOVERNMENT LANDING CRAFT PRESENTLY BEING USED PLACE THE MANU'A TRANSPORTATION ITEM IN THIS BUDGET AT A HIGH PRIORITY.

PART OF MANU'A TRANSPORTATION IS AIR. LATE LAST YEAR, ONE OF THE TWO TWIN OTTERS SERVING THE MANU'A ISLANDS CRASHED AT ONE OF THE TWO MANU'A AIR STRIPS. TODAY, THERE ARE TWO SMALL CRASHED PLANES ONE ON EACH SIDE OF THE LANDING STRIP. I BELIEVE THESE COULD HAVE BEEN AVOIDED IF THE LANDING STRIP HAD BEEN BETTER LAID OUT. I SUPPORT THE GOVERNOR'S FEELING THAT THIS IS AN ITEM OF HIGH PRIORITY FOR THE SAKE OF THE SAFETY OF THE PEOPLE AND TO CREATE AN OPENING FOR POSSIBILITIES IN TOURISM.

LAST YEAR, YOU WERE KIND ENOUGH TO GRANT MY REQUEST FOR A HOUSING FUND BECAUSE NO FEDERAL HOUSING PROGRAM OPERATES IN THE TERRITORY, OTHER THAN THE SMALL HOME REPAIRS PROGRAMS OF THE FARMER'S HOME LOAN ADMINISTRATION. YOU GRANTED ONE MILLION DOLLARS FOR THAT PURPOSE. I RESPECTFULLY URGE YOU TO MAKE A SIMILAR GRANT THIS YEAR. WE HAVE HELPED SOME PEOPLE WHO HAVE WAITED FOR MANY YEARS TO FIND A SOURCE FROM WHICH TO BORROW TO BUILD THEIR HOMES. I HOPE WE CAN EXTEND THE PROGRAM TO OTHERS THIS YEAR.

FINALLY, MR. CHAIRMAN, I TOO HAVE LOOKED CAREFULLY AT GOVERNOR LUTALI'S FIRST FOUR MONTHS IN OFFICE. I LIKE THE FACT THAT HE IS DIRECTING A GREAT DEAL OF ATTENTION TO OUR SCHOOLS AND HEALTH FACILITIES. I BELIEVE THESE ARE THE MOST CRITICAL NEEDS IN THE AREA OF SOCIAL SERVICES. AND I AM NOT AT ALL EMBARRASSED TO CONFESS THAT, AFTER ALL THESE YEARS, AMERICAN SAMOA'S EDUCATION SYSTEM STILL IS NOT PRODUCING THE TYPE OF PRODUCTS AN AMERICAN COMMUNITY WITH OUR TYPE OF EDUCATION SHOULD.

THE STATUS OF HEALTH CARE NEEDS TO BE UPGRADED WITH SOME PROMPTNESS. EVACUATION OF PATIENTS FOR OFF-ISLAND CARE HAS GROWN TOO FAST AND PLACES TOO MUCH OF A BURDEN ON FUNDS AVAILABLE FOR LOCAL HEALTH CARE. ANYTHING WE CAN DO TO IMPROVE LOCAL FACILITIES WOULD CONTRIBUTE DIRECTLY TO A REDUCTION IN OFF-ISLAND CARE.

I TOLD YOU I WOULD ONLY TOUCH ON A FEW POINTS, MR. CHAIRMAN, SO I MUST CONCLUDE AND TURN TO A TASK I PESONALLY ENJOY AND FEEL PROUD IN BEING ABLE TO DO, THAT IS, THE INTRODUCTION OF MY TERRITORIAL LEADERS WHO HAVE COME TO PRESENT OUR BUDGET REQUESTS BEFORE YOU.

Statement of Ben Blaz

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I AM BEN BLAZ, THE DELEGATE FROM THE TERRITORY OF GUAM.

I AM GREATLY HONORED TO MAKE MY FIRST APPEARANCE BEFORE YOU AND TO JOIN GOVERNOR BORDALLO AND SPEAKER GUTIERREZ TO OFFER TESTIMONY ON THE PROPOSED FY 1986 BUDGET FOR THE TERRITORY OF GUAM.

THE FY '86 DEPARTMENT OF INTERIOR BUDGET AS SUBMITTED BY THE PRESIDENT PROVIDED LIMITED FUNDS FOR NEEDED CAPITAL IMPROVEMENT PROJECTS AND NO FUNDS FOR ECONOMIC DEVELOPMENT FOR GUAM. WHILE WE RECOGNIZE THE PRESIDENT'S EFFORTS TO INSTITUTE SPENDING CUTS IN LIGHT OF THE SOARING NATIONAL DEFICIT, WE BELIEVE THAT THE CONGRESS HAS FOR SOME TIME RECOGNIZED THE IMPORTANCE OF THE DEVELOPMENT OF THE INFRASTRUCTURE ON GUAM. SUCH A RECOGNITION EMBRACES NATIONAL SECURITY INTERESTS AND ECONOMIC DEVELOPMENT NEEDS, THUS INSURING THAT AMERICANS ON GUAM HAVE ACCESS TO THE SAME BASIC SOCIAL AND ECONOMIC SERVICES THAT ARE AVAILABLE TO AMERICANS ELSEWHERE. FOR THESE REASONS, WE ARE APPEALING TO YOU FOR CONSIDERATION AND SUPPORT FOR APPROPRIATIONS ON CERTAIN PRIORITY ITEMS WHICH DIRECTLY AFFECT THE HEALTH AND WELFARE OF THE CITIZENS OF THE TERRITORY OF GUAM.

WATER PROJECTS:

IRONICALLY, AN OLD SAYING APTLY APPLIES TO THE GUAM WATER SITUATION: "WATER, WATER EVERYWHERE, BUT NOT A DROP TO DRINK." THE DEFICIENCY OF THE WATER INFRASTRUCTURE DEVELOPMENT IN GUAM, PARTICULARLY IN WATER TRANSMISSION AND DISTRIBUTION, IS SO SERIOUS THAT IT HAS LED TO CRISIS CONDITIONS IN THE SOUTHERN PART OF THE TERRITORY. THE PUBLIC UTILITY AGENCY OF GUAM PROVIDES POTABLE WATER FOR THE ENTIRE CIVILIAN POPULATION OF THE ISLAND. THE MAJOR SOURCE OF WATER LIES IN THE NORTHERN GUAM AQUIFER. TRANSMISSION OF POTABLE WATER TO REMOTE SOUTHERN VILLAGES CONSTITUTES THE MAJOR CHALLENGE. IN ADDITION, THE GUAM WATER DELIVERY AND STORAGE SYSTEM IS IN NEED OF CONSTRUCTION OF NEW LINES AND STORAGE FACILITIES AND EXTENSIVE REPAIR TO EXISTING ONES. IN RECOGNITION OF THIS PROBLEM, CONGRESS AUTHORIZED $16.3 MILLION IN PUBLIC LAW 98-454 TO FUND THE NECESSARY IMPROVEMENTS. I SEEK YOUR FAVORABLE SUPPORT FOR THE FULL AMOUNT AUTHORIZED.

GUAM PENITENTIARY:

FOR SEVERAL YEARS, THE CONGRESS HAS RECOGNIZED THE URGENT NEED TO COMPLETE THE GUAM PENITENTIARY, AND SUPPORTED INCLUSION IN PUBLIC LAW 98-213 OF AN ADDITIONAL FEDERAL CONTRIBUTION OF $4.15 MILLION TO ASSIST THE TERRITORY IN ITS VIGOROUS CAMPAIGN AGAINST CRIME AND TO ALLEVIATE CRITICAL OVERCROWDING IN ITS PENAL FACILITY. WE SEEK THE FULL AMOUNT AS AUTHORIZED FOR THIS PROJECT.

SECTION 30 PAYMENT:

SECTION 30 OF GUAM'S ORGANIC ACT PROVIDES STATUTORY REIMBURSEMENTS TO THE TERRITORY THROUGH ADVANCED PAYMENT TO IT OF FEDERAL TAX, DUTY, AND FEE COLLECTIONS FROM GUAM. INCLUDED IN THE ESTIMATES OF PAYMENTS TO THE TERRITORIES ARE $29 MILLION REQUESTED BY THE ADMINISTRATION FOR THE TERRITORY OF GUAM. I FULLY SUPPORT THIS REQUEST.

FREE STANDING MENTAL HEALTH FACILITY:

THE PEOPLE OF GUAM ARE DEEPLY GRATEFUL FOR THE FAVORABLE ACTION TAKEN BY THIS COMMITTEE IN MAKING FUNDS AVAILABLE LAST YEAR FOR THE ESSENTIAL RENOVATIONS TO THE GUAM MEMORIAL HOSPITAL. WE NOW APPEAL TO YOU FOR THE BALANCE AUTHORIZED IN THE AMOUNT OF $4.4 MILLION TO BE USED FOR THE CONSTRUCTION OF A FREE STANDING MENTAL HEALTH FACILITY WHICH WILL ACCOMMODATE ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH SERVICES. GOVERNOR BORDALLO HAS SUBMITTED A DETAILED COMPREHENSIVE PLAN FOR THE DEVELOPMENT OF THIS ESSENTIAL PROJECT.

IN ADDITION TO THESE CRITICAL PROJECTS FOR WHICH CONGRESS HAS ALREADY AUTHORIZED FUNDS, THE GOVERNOR ALSO SEEKS FUNDING FOR SEVERAL PROJECTS WHICH HAVE YET TO RECEIVE SIMILAR AUTHORIZATION. I URGE THE COMMITTEE'S REVIEW AND CONSIDERATION OF THOSE PROJECTS TO THE EXTENT THAT FUNDS MAY BE AVAILABLE.

THE BREVITY OF MY REMARKS ARE IN DEFERENCE TO THE EXTENSIVE AND COMPREHENSIVE DOCUMENTATION SUBMITTED TO THIS COMMITTEE BY THE

GOVERNOR OF GUAM AND THE SPEAKER OF THE EIGHTEENTH GUAM LEGISLATURE IN SUPPORT OF THEIR RESPECTIVE REQUESTS. I APPEAR BEFORE YOU IN OUR BIPARTISAN EFFORT TO EXPRESS MY STRONG SUPPORT OF THEIR REQUESTS FOR FUNDING. WE ARE WORKING DILIGENTLY TOWARD SELF-SUFFICIENCY AND AUTONOMY, BUT WE HAVE MANY HURDLES TO OVERCOME. WE ANTICIPATE, HOWEVER, THAT IN THE COURSE OF TIME, WE WILL OVERCOME THEM AND WE WOULD NOT BE AS DEPENDENT ON FEDERAL FUNDS IN THE FUTURE AS WE ARE COMPELLED BY CIRCUMSTANCES TODAY. THANK YOU.

SUPPLEMENTAL STATEMENT

I have prepared testimony supporting our territory's vital need for Capital Improvement funding and I am submitting it for your review and consideration. But I would like to make a supplemental statement on behalf of the people of Guam which I hope will give you a better perspective on our territory and the role it plays for America in the Pacific.

When most Americans think of Guam, the image that comes to mind is a World War II staging area for American troops and equipment. Guam was that. Or they think of sand and sea and swaying palms. Guam is that, as our 300,000 annual tourists can attest.

But when I am asked to speak about Guam, I try to bring a different focus. And President Reagan has helped bring that new perspective. Last year during the Presidential debate in Kansas City, the President was asked what regions of the world he regarded as so vital to our national interest that he would send American troops there if the area was threatened. Without hesitation, the President responded "We have a great interest in the Pacific Basin. That is where I think the future of the world lies."

Mr. Chairman, the Pacific holds enormous potential for the world and the United States. Our two-way trade with the region already exceeds our trade with our traditional European allies. Over $1.6 trillion dollars in trade passed between the United States and the Asia-Pacific region in 1984.

Guam is strategically located in the Western Pacific on the rim of this great East Asian trade empire. We are the American territory closest to this enormously vital area. We have a vital military part in the U.S. defense system in the region and serve an increasing role in aiding American commercial interests in the Pacific Basin.

Investing in Guam's infrastructure is investing in the United States' security and strategic interests. Guam stands as a beacon not only of American Democracy in the Pacific Basin but also of our vital interests there. So when you think in terms of investment in Guam, don't think in terms of a handout. Think in terms of strengthening America's investment in the vital Pacific, in terms of our strategic and commercial interests and in terms of the future.

I ask you, Mr. Chairman, and the committee to bear this in mind as you ponder the question of investment in Guam.

Thank you very much. I will be happy to answer any questions you may have.

SUMMARY STATEMENT OF RON DE LUGO

Mr. DE LUGO. Thank you very much. Mr. Chairman. It's always good to be before any committee chaired by you. You have been a friend of the territories for a long time, and I just say thank God, you're in the U.S. Senate, as far as we're concerned.

As chairman of the territorial caucus, I would like to take just a moment before I talk about my own district to make a few general observations and statements regarding the U.S. territories. The cuts in national programs requested by the President in his fiscal 1986 budget request strike with particular severity in the insular areas. The island economies will be hard-pressed to respond to the increased demands on local funding needed to offset Federal program reductions. The insular areas expect to share in the program cuts which the country must accept in the face of an expanding national deficit, but particularly disconcerting is the fact that the President's budget reflects a decision to allocate a greater proportionate share of Federal cuts to the insular areas. There is, in the President's budget, no discretionary assistance to the Virgin Islands. Assistance to Guam is virtually nonexistent, and the housing development fund for America Samoa is discontinued.

Unfortunately, the President's budget proposal for the insular areas suggests a greater commitment to reducing spending levels than to balancing this imperative with this country's previous commitment to its territories and commonwealths. The administration attempts to justify this position by citing a failure of insular governments to spend some of the previous appropriated moneys. This ignores the fact that the needs persist and, indeed, I would say that it suggests that the insular areas require more technical assistance from the administration in addressing their developmental needs.

Now in my own district, the Virgin Islands is reeling from the layoff of 300 employees at the Hess Oil refinery and Martin Marietta aluminum is planning to close down completely in July. That will send an additional 500 persons to the employment lines. The insular areas, generally, are still striving to achieve credible economic stability. Any claim that they have the flexibility to weather market changes or radical reductions in Federal aid is premature.

Meanwhile, the administration proposes considerable financial assistance to the Marshall Islands and the Federated States of Micronesia as freely associated States under the compact of free association. The aid will cover programs such as economic development, infrastructure, and alternative energy, all of which have been requested by the U.S. insular areas. Further, tax and trade incentives previously reserved for the U.S. insular areas are to be extended to the FAS, creating direct competition in some cases with the limited offshore industry.

Now each of the delegates have made clear their support of the assistance provided to the FAS under the compact, but the message sent to our constituents is a hard one at times to counter.

The House Interior and Insular Affairs Committee held hearings to review the President's budget request and heard testimony from the administration and insular representatives, and as a result of the testimony heard at these hearings by those with a special knowledge of insular matters, such as a number of the committee's members, changes have been made.

ST. CROIX AIRPORT

The budget reported out of that committee reflects a minimal response to insular areas' needs. And in my own case, let me say that the priority for the U.S. Virgin Islands is the extension of the St. Croix Airport runway to 10,000 feet. Now that's the island where we're suffering the losses at Hess, where we've suffered the loss of the Martin Marietta plant, the complete closing of that plant. The runway extension will allow the Virgin Islands to compete with other Caribbean Islands which are now able to attract the Canadian and European tourist markets. It will also give the Virgin Islands greater access to the Midwest and west coast.

Virgin islanders recognize that tourism will always be our main industry. Plans for new hotels on St. Croix are consistent with this realization and will help to offset the impact of plant closings, but the islands must be able to assure a growing market.

Now Mr. Chairman, the St. Croix Airport could also serve as a hub, acting as a supplement to the service provided by the Puerto Rico Airport. The tourist industry of the whole region would benefit. In addition, industry located in the Eastern Caribbean as a result of the Caribbean Basin Initiative could use the St. Croix Airport as a transshipment point in conjunction with the container port recently opened on St. Croix.

Now last year, Congress approved $450,000, which was matched by $150,000 in local funds, to develop the engineering and construction plans for the airport project. This year I ask your support for execution of those plans.

Public Law 98-454 authorizes $8 million for this project. The budget reported out of the House Interior and Insular Affairs Committee included $4 million, for the project for the coming fiscal year. Now I recognize that the Appropriations Committee would find it extremely difficult to make an outright grant to the Virgin Islands for the St. Croix Airport. For this reason, the Governor and I are proposing a long-term, low-interest loan to the Virgin Islands to be paid back out of the yearly airport improvement plan funds to be paid to the Virgin Islands. Since the project is expected to generate additional revenues, the almost $100 million per year generated by St. Croix' current enplanements should increase. And while use of these funds to pay off this loan will require some modification of the parameters for the use of AIP funds, I believe that the necessary accommodation can be worked out.

Now Mr. Harding, who is the executive director of the port authority, under whose management the airports remain, is here today with the Governor, and he will be glad to present the plan and identify the funds for the payback.

EASTERN CARIBBEAN CENTER

Also included for the Virgin Islands in the budget report is $1.2 million for the Eastern Caribbean Center at the College of the Virgin Islands, and, of course, this is a proposal that you, Senator, have been most helpful in moving along, and you've been most supportive of. The funds would be used to further this territory's commitment to providing the educational and technical aspect of the U.S. initiative in the Caribbean. Specifically, the appropriation would be used to carry forward a pilot demonstration project being developed through the technical assistance funds Congress provided the center last year.

I expect the necessary authorization for this appropriation to be considered by the House Interior and Insular Affairs Committee in the near future.

TECHNICAL ASSISTANCE

Finally, I ask the subcommittee's support for the increased technical assistance provided in the budget report. Given the impact of layoffs at Hess and Martin Marietta, which I noted above, the Virgin Islands is in particular need of technical assistance for private sector development. This assistance would also help the local entrepreneurs to tap private lending sources as well as to develop their market potential.

Additionally, the Virgin Islands needs technical assistance responding to the local crime situation. Apart from the fact that our development goals will suffer if the crime rate is not reduced, the community is getting increasingly frustrated by this threat to its safety. The local government needs help in handling what is becoming more like a metropolitan public safety problem than any of us tend to associate with a small tropical island.

Third, the Virgin Islands seeks technical assistance, as it has in the past, for financial planning and tax collection. The Department of the Interior has reviewed both of these matters and seems to agree that they are priorities for the limited technical assistance resources. Unfortunately, the assistance has not yet materialized.

With that, I thank you, Mr. Chairman. I'm available to answer any questions and also, as you know, our Governor will be here to make his presentation, and he will be accompanied by Mr. Harding.

ST. CROIX RUNWAY

Senator JOHNSTON. What is the length of your St. Croix runway at the present time?

Mr. DE LUGO. At the present time I believe it's about 7,000 feet, isn't it, Mr. Harding?

Senator Johnston.

Senator JOHNSTON. 7,600, did you say?

Mr. DE LUGO. 7,600. Is that right, John? 7,600.

Senator JOHNSTON. And that's not long enough to handle the jumbo jets?

Mr. DE LUGO. Why don't I get John up here.

Senator JOHNSTON. If you don't know, that's all right.

Mr. DE LUGO. I do, Mr. Chairman. At the present that is not long enough to handle fully loaded jets leaving from the Virgin Islands going to the west coast. Because of the atmosphere and the heat, they cannot do it fully loaded.

Senator JOHNSTON. Yes; I understand now.

Mr. DE LUGO. They need more runway.

Senator JOHNSTON. Thank you very much, Mr. de Lugo. It's always a pleasure to be with you. I'm familiar with your problems there, and we will, within the budget constraints, do what we can to address those very great needs.

Next we want to welcome Fofo Sunia, our good friend from American Samoa, and Congressman Sunia, we're glad to have you here today.

SUMMARY STATEMENT OF FOFO SUNIA

Mr. SUNIA. Thank you very much, Mr. Chairman.

I do have a statement which has been submitted, and I will not go into the details of the budget. I'll defer to our Governor, who is here, to make that presentation later. He is a new Governor. This will be his first hearing, and so I hope you will be a little bit easy with him.

Senator JOHNSTON. We do whatever you ask in this committee. [Laughter.]

Mr. SUNIA. Thank you, sir.

Except I'd like to mention a couple points. Last year you all recognized the need for housing in the territory, which is not entitled to any of the other housing programs in the Federal Government. That started last year, and we're asking for a repetition of that this year, a small amount.

Some item of emergency has arisen with regard to transportation between the islands. And I think these are the kind of services that we want to make sure exist so that people can move between the islands.

Other than that, I will defer to the Governor to make the complete statement of the budget presentation for American Samoa this year.

Thank you very much, Mr. Chairman.

Senator JOHNSTON. Thank you very much, Mr. Sunia. It's always a pleasure to have you.

Next we want to welcome a new Congressman from Guam, Mr. Ben Blaz.

Mr. Blaz, welcome to the committee.

SUMMARY STATEMENT OF BEN BLAZ

Mr. BLAZ. Thank you very much, Mr. Chairman. I've heard a lot about you, and I'm very honored to be here and have you chair this hearing today.

Mr. Chairman, I'm one of three members of a delegation representing the territory of Guam. The other, of course is the Governor of Guam and the speaker of the legislature.

My appearance here today, it is my desire to focus on the bipartisan nature of our appearance before you, meaning that I fully support the testimony that will be given by both of them later on.

For my part, I'd just like to say, sir, that I know that when people think of Guam, many people think of it as just a staging area for World War II, and other people think of it as they do other islands, there being sand, sun, and the sea. And we like to have you think of that, because it is true also, and we are certainly very dependent on tourism.

But I think you will recall, Mr. Chairman, that last year when there was a debate in Kansas City between the President and the challenger, the question was asked of the President, if you could think of a place in the world to which you would commit U.S. troops. Without hesitation, he said, yes, there is one such place, and that is the Pacific Basin, wherein lies the future of the world.

Perhaps a bit expansive in his description, but we don't think it is on Guam, and we'd like to just remind those of our comrades here in the Congress that Guam is an American Nation, it is sitting right in the middle of that Pacific Basin.

So we would like to make a case that an investment on Guam is not just for the Americans on Guam, but for all of America. It's an investment of the future. When one looks at the countries that are literal to the Pacific Basin and the difficulties which we have with some of them and the possibility that we may have to withdraw some of our efforts farther West, possibly on Guam, one can make a very good argument that we could do well to try to improve the infrastructure of Guam.

So if I leave no other impression with you than to just add that additional focus that Guam is—there's a special circumstance surrounding that territory, and I think that I would like to just make that point for the record, sir.

Senator JOHNSTON. Thank you very much, Mr. Blaz. I'm well familiar with Guam. It's where America's day begins. We're very proud of Guam, what it means to us in many ways. We're very proud of the sacrifices that Guamanians have made to the country. In most every way, they've led the way with those who have volunteered and, indeed, in the casualties, and so we know they're strong Americans, not just because they're important to us strategically, because they have a commitment to the country and to democracy and what we stand for, and we don't forget that on this committee as we go about our business.

Mr. BLAZ. Thank you, sir.

Senator JOHNSTON. And I thank you very much for being here with us.

Gentlemen, thank you so much.

TERRITORIAL GOVERNMENTS

VIRGIN ISLANDS

STATEMENT OF GOVERNOR JUAN LUIS, GOVERNOR, VIRGIN ISLANDS

PREPARED STATEMENT

Senator JOHNSTON. I understand Governor Juan Luis from the Virgin Islands has a conflict so, Governor, we'd be delighted to entertain your testimony at this point.

Governor LUIS. Thank you, Mr. Chairman.

I am grateful for this opportunity to testify on behalf of the United States Virgin Islands.

In the interest of time, I would present a summary of my official statement which I respectfully request be included in the record in full.

[The statement follows:]

STATEMENT OF JUAN LUIS

Mr. Chairman and distinguished Members of the Senate Appropriations Subcommittee on Interior and Related Agencies, I am grateful for this opportunity to testify on behalf of the United States Virgin Islands.

First, I would like to extend my deep-felt appreciation to Chairman McClure, Senator Weicker, Senator Johnston and the other members of this Subcommittee for your past support of our efforts to secure economic opportunity and self-sufficiency for the people of the Virgin Islands, particularly at a time when the Federal Government has experienced serious budgetary problems of its own. It is and remains the goal of my Administration that, with the development of needed infrastructure and the creation of new industries in the Territory as a result of new incentives provided by the Congress, the Virgin Islands will soon be in a position where it will no longer need ad hoc appropriations from the United States.

Your continued support for our efforts to develop our private sector economy will help us achieve that goal. To this end, I ask your support for $4 million to help commence the $10 million expansion of the Alexander Hamilton Airport on St. Croix. These funds will be used to lengthen the runway to 10,000 feet in order to accomodate wide bodied jumbo jets on direct flights from the United States, Canada and Europe. This will allow us to develop new tourist markets and to compete with the other 18 Caribbean countries that currently have the capability to accommodate jumbo jets.

In particular, we have projected that the St. Croix airport expansion will put the Virgin Islands in an excellent position to tap the large Canadian and European markets and to develop the growing charter business out of the Northwest and Southwest sections of the United States.

The Interior Department has recognized the need for this facility by recently providing the Territorial Government with a $450,000.00 grant matched by $150,000.00 of local funds to develop the necessary project engineering and construction plans. Moreover, the Federal Aviation Administration has already examined potential environmental problems posed by the proposed runway expansion and has indicated its willingness to issue a "no significant impact" ruling that would allow the project to commence. At the same time, the Virgin Islands Port Authority has agreed to conduct a study and develop a noise compatibility plan that will insure future environmental harmony.

The Virgin Islands needs to proceed without delay in this project in order to help mitigate the serious damage to our local economy threatened by the imminent closing of the Martin Marietta aluminum processing plant and recent sharp cutbacks in the operation of the Amerada Hess oil refinery on St. Croix. Without new economic activity generated by projects such as the St. Croix airport expansion, unemployment could rise as high as 20-25 percent. Indeed three major hotel expansions are currently planned for St. Croix. We believe that the runway extension project will facilitate and accelerate that development and encourage additional growth in the important tourist sector of our economy.

The major obstacle preventing the runway project from becoming a reality is construction financing. In the face of the Federal Government's serious budget problems, we recognize that a federal grant to finance this vital project may not be feasible. On the other hand, we believe that a long-term, low interest federal loan will protect U.S. fiscal interests, while providing the assistance we need to help ourselves. We believe there are several ways that we can pay back this loan to meet federal concerns. First, we are willing to pledge our federal airport improvement funds under the Airport Development Assistance Program to guarantee repayment of the loan. Since the runway expansion is expected to generate additional passenger traffic to the Virgin Islands, our enplanement funds should be sufficient to cover any such guarantee. Secondly, we believe that the Virgin Islands should be permitted to levy a reasonable fee on the airlines and charter operations that require the longer runway in order to operate in the Virgin Islands. These fees would then be dedicated to paying back the loan. We believe that either one or a combination of both of these approaches would be sensitive to U.S. budget concerns, while at the same time, provide the Virgin Islands with the tools we need to increase private sector growth and our economic self-sufficiency.

I also ask your support for $1.2 million to help fund the Eastern Caribbean Center at the College of the Virgin Islands. Originally proposed by President Reagan as part of the Caribbean Basis Initiative, the Center is intended to serve as an important and needed link between the United States and the mini-states of the Eastern Caribbean. The Center will promote research and provide technical assistance and training programs for future leaders of the Eastern Caribbean. In particular, the proposed $1.2 million will be used to fund an agricultural technology needs assessment for the Eastern Caribbean, an insect and disease distribution biological census, food production research, aquaculture and food processing projects, middle management training programs for both the private and public sectors of Eastern Caribbean economies, water sciences research, professional training in vital human resources fields, and a satellite communications feasibility study. We believe these programs, in addition to their obvious educational merits, will generate important dividends for the United States in terms of increased understanding and friendship between the United States and the Eastern Caribbean. In short, it is a small investment with a big return for the United States.

Finally, we ask your support for $4.9 million for combined technical assistance to all U.S. territories. These funds will be used in part to continue financing critical improvements and technical assistance for the public and private sectors in the Virgin Islands. These programs are needed to help assure an attractive climate for U.S. private sector investment, as well as to develop local skills necessary to take full advantage of new economic opportunities such as those provided by the location of hundreds of foreign sales corporations in the Virgin Islands as a result of the 1984 Tax Act.

The Virgin Islands has many obstacles to overcome in order to achieve economic and financial self-sufficiency. I have already alluded to the problems posed by the closing of Martin Marietta and the cutbacks in Amerada Hess' oil refining operations. At the same time, we have been buffeted by increased competition from our Caribbean neighbors who now enjoy duty-free access to the U.S. market under CBI, while certain provisions of the Treasury Department's tax reform proposal will discourage additional private sector investment in the Virgin Islands and threaten the ability of the Territory to generate adequate tax revenues to finance basic government operations in the Virgin Islands.

We believe that the proposed funding we have just outlined will materially assist the Virgin Islands in the short term to offset some of these obstacles and to regain needed momentum in its private sector development. At the same time, we believe that, in the long term, returning to the Virgin Islands a portion of the excise taxes collected on gasoline manufactured in the Territory would compensate the Virgin Islands for the anticipated revenue losses caused by Treasury's tax reform proposal and ensure permanent fiscal stability for the Territory which would avoid the need for future ad hoc federal grants. With the continued support of this Subcommittee and the rest of the Congress, we can be successful in attracting new economic activity and become an American model economy for the entire Caribbean.

SUMMARY STATEMENT OF GOV. JUAN LUIS

Governor LUIS. I would like to extend my deep-felt appreciation to Chairman McClure, Senator Weicker, Senator Johnston, and the other members of this subcommittee for your past support of all efforts to secure economic opportunity and self-sufficiency for the people of the Virgin Islands, particularly at the time when the Federal Government has experienced serious budgetary problems of its own.

It is and remains the goal of my administration that with the development of needed infrastructure and the creation of new industries in the territory, as a result of new incentives provided by the Congress, the Virgin Islands will soon be in a position where it will no longer need ad hoc appropriations from the United States.

Your continued support for our efforts to develop our private sector economy will help us achieve that goal. To this end I ask your support for $4 million to help commence a $10 million expansion of the Alexander Hamilton Airport on St. Croix.

These funds will be used to lengthen the runway to 10,000 feet in order to accommodate wide-body jets on direct flights from the United States, Canada, and Europe. This will allow us to develop new tourists markets and to compete with the other 18 Caribbean countries that currently have the capability to accommodate jumbo jets.

In the face of the Federal Government's serious budget problems, we recognize that an outright Federal grant to finance this vital project may not be feasible.

On the other hand, we believe that a long-term Federal loan would protect us, would protect U.S. fiscal interests, while providing the assistance we need to help ourselves.

To further meet Federal concerns, we would be willing to pledge future Federal airport improvement funds to guarantee repayment of the loan. We would also agree, if permitted to do so, to levy a reasonable fee on those airlines and charter operations that require the longer runway in order to operate in the Virgin Islands.

We believe this approach is fair and reasonable while at the same time provides the Virgin Islands with the tools we need to increase private sector growth and our economic self-sufficiency.

I also ask your support for $1.2 million to help fund the Eastern Caribbean Center of the College of the Virgin Islands.

Mr. Chairman, in the interest of time I'm going to skip that portion since the delegate to Congress covered that fully.

Finally, we ask your support for $4.9 million for combined technical assistance to all U.S. territories. These funds will be used in part to continue financing critical improvements and technical assistance for the public and private sectors in the Virgin Islands.

These programs are needed to help assure an attractive climate for U.S. private sector investment as well as to develop local skills necessary to take full advantage of new economic opportunities such as those provided by the location of hundreds of foreign sales corporations in the Virgin Islands as a result of the 1984 Tax Act.

The Virgin Islands has many obstacles to overcome in order to achieve economic and financial self-sufficiency. The territory is faced with serious problems threatened by the imminent closing of the Martin-Marietta aluminum processing plant and the recent cutbacks in the Hess oil refining operations on St. Croix.

At the same time, we have been buffeted by increased competition from our Caribbean neighbors who now enjoy duty-free access to the U.S. market under CBI while certain provisions of the Treasury Department's tax reform proposal will discourage additional private sector development in the Virgin Islands and threaten the ability of the territory to generate adequate tax revenues to finance basic government operations and vital services in the Virgin Islands.

Nonetheless, we are optimistic that with the continued support of this subcommittee and the rest of the Congress, we can offset some of these obstacles and we can be successful in attracting new economic activity to the Virgin Islands. With your help, we can become an American model economy for the entire Caribbean.

Thank you very much.

Senator JOHNSTON. Thank you very much, Governor.

ST. THOMAS AIRPORT

How long would it be before the St. Thomas Airport can be completed? I know that's been going painfully slowly.

Governor LUIS. About 2½ years.

Senator JOHNSTON. About 2½ years.

Do you have the financing in place for that?

Governor LUIS. Yes; we do.

Senator JOHNSTON. All the money you'll need from here to completion, including the terminal?

Governor LUIS. We are going to build a terminal building on the St. Thomas Airport with local funds.

Senator JOHNSTON. With local funds?

Governor LUIS. That's correct.

Senator JOHNSTON. And you have the financing?

Governor LUIS. We have the mechanism in place and the funding in place for that.

Senator JOHNSTON. You have to finish the runway first, don't you, before you build a terminal?

Governor LUIS. That's technical. I better let our director——

Mr. HARDING. Good afternoon, sir.

No; the terminal building has to be completed prior to completion of the runway.

Senator JOHNSTON. That's right. I knew the terminal building figured in there somewhere and is it not because you must move the terminal building?

Mr. HARDING. The terminal building has to be relocated in order to complete——

Senator JOHNSTON. You'll have all that finished in 2½ years?

Mr. HARDING. According to the schedule that we have worked out, it can be completed in 2½ years. The impact right now is starting the terminal building and——

Senator JOHNSTON. And that's fully financed; you have the plans——

Mr. HARDING. It's fully financed. The engineering drawings are completed and we are awaiting the contractor to start.

ST. CROIX AIRPORT

Senator JOHNSTON. OK.

Now, with respect to St. Croix, you presently have a 7-600-foot runway. I know that jumbo jets land there now but they can't take off for the west coast fully loaded; is that the problem?

Mr. HARDING. The staging length is limited to about 1,600 miles. That's about from New York to St. Croix. Any longer distance, they have to make a stop for fueling in between.

Senator JOHNSTON. And the current runway accommodates—you can go to New York?

Mr. HARDING. You can go to New York.

Senator JOHNSTON. New York, Atlanta, Dallas, any of those places?

Mr. HARDING. You can go to Atlanta—that market hasn't been developed. Dallas, it's a question as to whether or not they can go to Dallas and back.

Senator JOHNSTON. But they can make it to New York?

Mr. HARDING. They can make it to New York; yes, sir.

Senator JOHNSTON. All right.

But, principally, its west coast markets you would want to develop with a longer runway?

Mr. HARDING. The west coast market and Europe, Canada, and the Northwestern part of the United States.

Senator JOHNSTON. Do you know from the other islands whether there's a big potential market for Europe? Where is the big market you would want to get to?

Mr. HARDING. I know in Antiguas, St. Kitts, and some of the other islands, they bring in fully loaded 747 charters to those islands on a constant basis and we would like to have the ability to compete for those tourists.

Senator JOHNSTON. Do you have any studies about how many they bring in and where they bring them in from?

Mr. HARDING. No.

Senator JOHNSTON. Well, Governor, thank you very much for your excellent statement. We're familiar with these issues and we're certainly going to do our very best.

As you know, we've tried on this committee in the past to help out on matters of the Virgin Islands and, of course, we had a conversation with you and your staff just a couple of days ago on the tax matters with respect to the Virgin Islands.

And I might say for all the territories, we are most sensitive to what the so-called flat fair tax might do to—in the case of the Virgin Islands, section 934; section 936, with respect to Puerto Rico and Guam—and we will do our very best to help. This, of course, is not an appropriation measure, but it is a measure that vitally affects the territories. We will do our best to see that the territories will not be hurt but hopefully will be helped by the operation of whatever change in the tax laws there are.

So thank you very much, gentlemen. We appreciate your being here.

Governor LUIS. Thank you, Mr. Chairman.

GUAM

STATEMENT OF HON. RICARDO J. BORDALLO, GOVERNOR OF GUAM

PREPARED STATEMENT

Senator JOHNSTON. Next, Gov. Ricardo Bordallo of Guam. We are always glad to welcome back Governor Bordallo. We will insert your prepared statement and then you may proceed.

[The statement follows:]

Statement of Ricardo J. Bordallo

ON BEHALF OF ALL THE PEOPLE OF GUAM I WOULD LIKE TO ONCE AGAIN EXTEND OUR SINCERE "SI YUUS MAASI'" TO YOU AND THIS COMMITTEE FOR THE OPPORTUNITY TO PRESENT THE TERRITORY'S NEEDS FOR FISCAL YEAR 1986.

I WOULD ALSO LIKE TO RECOGNIZE THE SUPPORT AND THE ASSISTANCE WE HAVE RECEIVED FROM THIS COMMITTEE AND THE CONGRESS IN OUR EFFORTS TO BUILD GUAM INTO A MODERN, PROGRESSIVE AMERICAN COMMUNITY.

IN THE FACE OF SEVERE PRESSURE TO CUT VIRTUALLY ALL DISCRETIONARY SPENDING, THE CONGRESS HAS CONTINUED TO RECOGNIZE AND FULFILL ITS SPECIAL COMMITMENT TO PROTECT AND PROMOTE THE POLITICAL, ECONOMIC AND SOCIAL DEVELOPMENT OF THE TERRITORIES. THAT IS WHY WE WERE PARTICULARLY ENCOURAGED BY THE GENERAL ACCOUNTING OFFICE REPORT ON "ISSUES AFFECTING U.S. TERRITORY AND INSULAR POLICY", WHICH WAS ISSUED ON FEBRUARY 7TH OF THIS YEAR.

THE REPORT IS A CLEAR, CONCISE STATEMENT OF THE COMPLEX SET OF ISSUES INVOLVED IN THE FEDERAL GOVERNMENT'S POLICY AND SUPPORT FOR THE TERRITORIES. IT EXPLAINS WHY SIGNIFICANT AMOUNTS OF DIRECT CAPITAL INVESTMENT IN THE TERRITORIES BY THE FEDERAL GOVERNMENT HAVE BEEN NECESSARY IN THE PAST. AND IT EXPLAINS WHY DIRECT AID WILL CONTINUE TO BE NECESSARY INTO THE FUTURE, UNTIL THE CONGRESS AND THE TERRITORIES ARE ABLE TO ACHIEVE AN ULTIMATE POLITICAL STATUS DETERMINATION FOR EACH TERRITORY.

AS YOU MAY KNOW, GUAM'S COMMISSION ON SELF-DETERMINATION IS FINISHING UP ITS WORK ON AN ACT TO CREATE THE COMMONWEALTH OF GUAM, WHICH WE EXPECT TO BE READY TO SUBMIT TO THE CONGRESS BY THE END OF THIS YEAR. WE EXPECT SUCCESSFUL PASSAGE OF THAT ACT TO RESOLVE MANY OF THE CURRENT PROBLEMS THAT REQUIRE US TO APPEAR EACH YEAR BEFORE THE CONGRESS TO SEEK FUNDING WITHIN THE DEPARTMENT OF INTERIOR BUDGET.

ALTHOUGH THE GOVERNMENT OF GUAM WAS FACING AN EXTREME FISCAL CRISIS WHEN MY ADMINISTRATION BEGAN SOME TWO AND A HALF YEARS AGO, WE ARE PROUD OF THE FACT THAT THE TIDE NOW APPEARS TO BE TURNING. MY GOVERNMENT DOES NOT ATTEMPT TO CLAIM ALL THE CREDIT FOR THE UPTURN IN OUR TERRITORY'S ECONOMY. BUT WE DO HEAR FROM BUSINESSMEN THAT THE GENERAL ATMOSPHERE FOR INVESTMENT IN GUAM HAS IMPROVED REMARKABLY.

OUR LOCAL BUDGETING PROCESS IS NO LESS PAINFUL THAN THE DIFFICULT BUDGETING DECISIONS THAT MUST BE MADE BY YOU AND YOUR COLLEAGUES AT THE FEDERAL LEVEL. IN FISCAL YEAR 1983, FOR THE FIRST TIME IN OUR HISTORY THE GOVERNMENT OF GUAM WAS FORCED TO BORROW MONEY TO FUND REGULAR OPERATIONS. THE GOOD NEWS IS THAT THE NEED FOR BORROWING HAS NOT RECURRED. THROUGH A MODEST INCREASE IN TAXES AND THE VIGOROUS PURSUIT OF ALL REVENUES DUE TO THE GOVERNMENT, WE ARE KEEPING OUR OBLIGATIONS UNDER CONTROL.

WE HAVE ALSO FORCED THE GOVERNMENT'S AUTONOMOUS AGENCIES, WITH THE EXCEPTION OF OUR HIGHER EDUCATION INSTITUTIONS, TO BE FULLY SELF-SUPPORTING, AS THEY WERE ALWAYS MEANT TO BE. THE GUAM POWER AUTHORITY AND THE GUAM MEMORIAL HOSPITAL ARE JUST TWO OF THE AGENCIES THAT RECEIVED MILLIONS IN SUBSIDIES FROM THE GENERAL FUND, IN PRIOR YEARS. TODAY, AFTER ADJUSTING THEIR RATES, THE HOSPITAL AND THE POWER AUTHORITY ARE COMPLETELY SELF-SUSTAINING .

WE HAVE RECENTLY ISSUED A $35 MILLION HIGHWAY BOND TO FUND SIX MAJOR HIGHWAY RECONSTRUCTION PROJECTS FROM LOCAL

REVENUE SOURCES. WE HAVE BEGUN TO SERIOUSLY ADDRESS PRIVATIZING CERTAIN GOVERNMENT PROGRAMS. THE GUAM MEMORIAL HEALTH PLAN, THE VEHICLE SAFETY INSPECTION PROGRAM, AND SECURITY GUARD SERVICES HAVE ALREADY BEEN CONTRACTED TO PRIVATE CONCERNS. OTHER PROGRAMS PRESENTLY BEING PERFORMED BY GOVERNMENT EMPLOYEES IN THE VARIOUS AGENCIES ARE BEING CLOSELY SCRUTINIZED TO DETERMINE THE FEASIBILITY OF PRIVATIZATION.

IT IS A WELL-DOCUMENTED FACT THAT THE SYSTEM OF INFRASTRUCTURE THAT THE GOVERNMENT OF GUAM INHERITED FROM THE NAVY WITH THE PASSAGE OF THE ORGANIC ACT IN 1950 WAS DETERIORATING AND INADEQUATE TO MEET THE NEEDS OF A GROWING POST-WAR CIVILIAN COMMUNITY. IN RECOGNITION OF THAT FACT, AND OF THE LIKELIHOOD THAT THE FEDERAL GOVERNMENT WOULD HAVE TO BEAR A SIGNIFICANT PORTION OF THE FUNDING RESPONSIBILITY FOR GUAM'S INFRASTRUCTURE NEEDS, THE 95TH CONGRESS DIRECTED THE DEPARTMENT OF INTERIOR TO PREPARE A COMPREHENSIVE ANALYSIS OF GUAM'S INFRASTRUCTURE NEEDS AND THE ALTERNATIVES FOR MEETING THEM.

THAT REPORT IDENTIFIED JUST OVER $1 BILLION WORTH OF CAPITAL INFRASTRUCTURE NEEDS FOR THE ISLAND THAT WOULD HAVE TO BE ADDRESSED DURING THE 1980'S. SINCE THE ISSUANCE OF THAT REPORT IN 1979, THE FEDERAL GOVERNMENT HAS FUNDED NEARLY $60 MILLION IN GUAM PROJECTS. AS YOU MIGHT EXPECT, WE HAVE QUITE A BIT MORE WORK TO DO.

BUT GUAM AND HER PEOPLE ARE NEITHER UNWILLING NOR UNABLE TO ASSIST IN THE CONSTRUCTION AND RENOVATION OF THE TERRITORY'S BASIC INFRASTRUCTURE. THE $11 MILLION CONGRESS APPROVED IN THE 1985 BUDGET FOR THE RENOVATION OF ROADS AND WATER LINES IN GUAM'S TUMON BAY RESORT AREA HAS PROVEN TO BE A MAGNET FOR PRIVATE INVESTMENT IN THE AREA, AN AREA WHICH PROVIDES THE BACKBONE TO GUAM'S TOURISM INDUSTRY, OUR MOST PRODUCTIVE ECONOMIC SECTOR.

WE ARE PRESENTING TODAY A REQUEST FOR $29,824,414 IN FUNDING FOR FISCAL YEAR 1986. THIS AMOUNT DOES NOT EVEN BEGIN TO ADDRESS THE TOTAL OF OUR CAPITAL INFRASTRUCTURE NEEDS. HOWEVER, THE SIX PROJECTS FOR WHICH WE ARE REQUESTING FUNDING ARE VITAL TO THE TERRITORY'S PUBLIC HEALTH, PUBLIC SAFETY AND ECONOMIC WELL-BEING. OUT OF THAT TOTAL AMOUNT, 83 PERCENT IS FOR FUNDING THAT HAS BEEN THOROUGHLY STUDIED AND PREVIOUSLY AUTHORIZED BY THE CONGRESS.

THE PROJECTS ARE DESCRIBED IN DETAIL IN THE CAPABILITY STATEMENTS THAT HAVE BEEN ATTACHED TO THIS TESTIMONY AND SUBMITTED FOR THE COMMITTEE'S REVIEW.

PUBLIC LAW 98-213 AUTHORIZED $4.1 MILLION FOR THE COMPLETION OF THE GUAM PENITENTIARY. THIS PROJECT, WHICH WAS INITIATED DURING MY FIRST TERM AS GOVERNOR, AND CARRIED ON BY MY PREDECESSOR, HAS BEEN HAMPERED BY AN INITIAL APPROPRIATION THAT WAS BELOW THE ESTIMATED COST AND INFLATIONARY PRESSURES THAT LED TO COST OVERRUNS.

NEVERTHELESS, IT IS CRITICAL TO OUR PEOPLE'S ACTUAL AND PERCEIVED SENSE OF DOMESTIC SECURITY THAT GUAM'S PRISON BE BROUGHT UP TO MINIMAL STANDARDS BY THE CONSTRUCTION OF THE ADDITIONAL FACILITIES THAT THIS MONEY WOULD PROVIDE. THE CURRENT FACILITY, AS BUILT, IS RATED FOR 70 INMATES. IT CURRENTLY HOUSES 154. IT IS ABSOLUTELY VITAL, IN LIGHT OF OUR EFFORTS TO MAKE TOURISM A VIABLE AND STRONG CONTRIBUTOR TO THE LOCAL ECONOMY, THAT WE ENHANCE THE PUBLIC SAFETY THROUGH CONSTRUCTION OF AN ADEQUATE AND SECURE PRISON FACILITY.

THE 1985 OMNIBUS TERRITORIES ACT AUTHORIZED $16.3 MILLION IN WATER SYSTEM IMPROVEMENTS FOR GUAM. THIS IS THE AREA OF GUAM'S INFRASTRUCTURE WHERE THE PROBLEM OF TRYING TO SUPPORT A MODERN POPULATION WITH AGING, OUTDATED NAVY EQUIPMENT IS MOST GLARING. MUCH OF OUR ISLAND'S WATER SYSTEM WAS INSTALLED BY THE NAVY RIGHT AFTER THE WAR AND WAS NEVER INTENDED TO LAST PAST THE '50'S. GUAM'S WATER IMPROVEMENT PROJECTS SEEKS TO ACHIEVE TWO MAJOR OBJECTIVES. FIRST IS THE OBJECTIVE OF INCREASING THE PRODUCTION CAPACITY TO BE ABLE TO MEET THE DEMAND REQUIREMENTS UP TO THE YEAR 2000. CURRENT STUDIES INDICATE THAT THE PRESENT PRODUCTION CAPACITY IS NOT SUFFICIENT TO SATISFY CURRENT DEMANDS; THIS IS EVIDENCED BY THE FACT THAT THE GOVERNMENT OF GUAM HAS TO PURCHASE APPROXIMATELY 20% OF ITS NEEDS FROM THE MILITARY ON ISLAND. THOSE SAME STUDIES PROJECT THAT WITHIN 15 YEARS THE ISLAND'S PRODUCTION CAPABILITIES MUST BE INCREASED BY 128% TO SATISFY THE DEMANDS AT THAT TIME. THE OTHER OBJECTIVE OF THE WATER IMPROVEMENT PROJECTS IS TO SOLVE THE PROBLEMS INHERENT WITH TRANSPORTING THOSE INCREASED LEVELS OF PRODUCTION. THE CURRENT TRANSMISSION SYSTEM IS TOTALLY INADEQUATE TO EFFICIENTLY HANDLE TODAY'S CONSUMPTION LEVELS TO THE VARIOUS SERVICE AREAS AROUND THE ISLAND.

A RELIABLE AND SAFE WATER SUPPLY IS, OF COURSE, BASIC TO ANY MODERN COMMUNITY. IT IS TAKEN FOR GRANTED BY MOST. ON GUAM, WE ARE BLESSED WITH ONE OF THE BEST UNDERGROUND FRESH WATER SUPPLIES IN THE PACIFIC. YET, IN TIMES OF EXTREMELY LOW RAINFALL, OUR SOUTHERN, RURAL VILLAGES SUFFER FROM PROLONGED WATER OUTAGES DUE TO THE DEFECTS IN THE DISTRIBUTION SYSTEM.

THE GUAM WATER FACILITIES MASTER PLAN, COMPLETED IN 1979, CALLED FOR $68.9 MILLION IN IMPROVEMENTS TO THE SYSTEM. THE COMPLETION OF THE MASTER PLAN IS ONE OF OUR HIGHEST PRIORITIES. CONGRESS, THROUGH THE DEPARTMENT OF INTERIOR, HAS FUNDED $22.6 MILLION IN WATER PROJECTS IDENTIFIED BY THE MASTER PLAN. LAST FALL, THE GUAM LEGISLATURE APPROPRIATED $2.7 MILLION FOR WATER PROJECTS.

WE HAVE SOME $43 MILLION TO GO, (IN 1980 DOLLARS) BEFORE THE ISLAND'S WATER SYSTEM CAN BE CONSIDERED COMPLETE AND UP-TO DATE. WE ASK YOUR FAVORABLE CONSIDERATION FOR THE FULL FUNDING OF WATER PROJECTS AUTHORIZED BY LAST YEAR'S OMNIBUS TERRITORIES BILL.

IN THE AREA OF PUBLIC HEALTH, WE ARE EXTREMELY GRATEFUL FOR THE $5.6 MILLION THAT WAS APPROVED BY THIS COMMITTEE AND APPROPRIATED BY THE CONGRESS IN THIS YEAR'S BUDGET FOR MUCH NEEDED IMPROVEMENTS TO THE GUAM MEMORIAL HOSPITAL. BECAUSE OF CERTAIN STRUCTURE DEFICIENCIES IN THE HOSPITAL'S PHYSICAL PLANT, GMH LOST ITS ACCREDITATION IN JUNE 1983. THE HOSPITAL AUTHORITY, IN TAKING THE NECESSARY STEPS TO REGAIN ACCREDITATION, SEVERED ITS TIES WITH THE OLD FACILITY, WHICH HAD BEEN ONE OF THE PRIME OFFENDERS IN THE LOSS OF GMH ACCREDITATION.

HOWEVER, THE GUAM DEPARTMENT OF MENTAL HEALTH AND SUBSTANCE ABUSE IS STILL A RESIDENT IN THE OLD HOSPITAL BUILDING. THIS DEPARTMENT IS GUAM'S ONLY FACILITY FOR THE EVALUATION AND TREATMENT OF MENTAL ILLNESS, ALCOHOLISM, AND SUBSTANCE ABUSE. THE OLD HOSPITAL FACILITY WAS NEVER DESIGNED FOR THESE USES AND IT CONTINUES TO DETERIORATE BELOW ACCEPTABLE HEALTH AND SAFETY STANDARDS.

IN PUBLIC LAW 95-348 CONGRESS AUTHORIZED $10 MILLION FOR THE HEALTH CARE NEEDS OF GUAM IN CONJUNCTION WITH

THE MONEY THAT WAS APPROPRIATED FOR THE PURCHASE OF THE NEW GUAM MEMORIAL HOSPITAL FACILITY.

THE $5.6 MILLION APPROPRIATED LAST YEAR FOR HOSPITAL IMPROVEMENTS CAME FROM THIS $10 MILLION AUTHORIZATION. WE ARE NOW REQUESTING THAT THE REMAINING $4.3 MILLION IN AUTHORIZATION BE APPROPRIATED FOR THE CONSTRUCTION OF A FREE-STANDING MENTAL HEALTH AND SUBSTANCE ABUSE TREATMENT CENTER.

AS I HAVE STATED PREVIOUSLY, GUAM'S TOURISM INDUSTRY IS OUR MOST VITAL AND PROGRESSIVE PRIVATE SECTOR ECONOMIC ACTIVITY. THE INDUSTRY HAS EXPERIENCED PHENOMENAL GROWTH, AND WE NOW FIND OURSELVES AT A WATERSHED OF SORTS. RECENTLY COMPLETED AND CURRENT HOTEL CONSTRUCTION WILL DOUBLE THE ISLAND'S ROOM CAPACITY BY THE END OF THE NEXT YEAR. OCCUPANCY RATES AT GUAM HOTELS HAVE RECENTLY BEEN RUNNING IN EXCESS OF 100 PERCENT.

YET, OUR TOURISM PROFESSIONALS TELL US THAT THE MOST PRESSING NEED OF GUAM'S MARKET IS THE DEVELOPMENT OF NEW ATTRACTIONS. GUAM IS BLESSED WITH CLEAR SKIES AND BEAUTIFUL BEACHES. HOWEVER, WE ARE TOLD THAT BECAUSE OF GUAM'S URBANIZED DEVELOPMENT, THERE IS AN URGENT NEED FOR ATTRACTIONS BEYOND THE SAND AND THE SUN IF WE ARE TO COMPETE WITH SOME OF OUR LESS DEVELOPED NEIGHBORS.

GUAM'S PLAZA DE ESPANA, LOCATED IN THE HEART OF AGANA, IS THE TRADITIONAL CENTER OF COMMUNITY LIFE ON OUR ISLAND. SINCE THE DAYS OF THE SPANISH, THE PLAZA, CROWNED BY THE GOVERNOR'S PALACE AT THE SOUTHERN END, WAS THE MAGNET FOR SOCIAL ACTIVITIES ON GUAM.

SADLY, THE PALACE WAS COMPLETELY DEMOLISHED BY THE AMERICAN BOMBING THAT PRECEDED THE RE-OCCUPATION OF GUAM IN 1944. WHEN HOSTILITIES ENDED, THERE WAS GREAT ELATION OVER AMERICAN PLANS TO REDEVELOP AGANA BEYOND THE GRANDEUR THAT IT KNEW IN PRE-WAR DAYS. UNFORTUNATELY, THOSE PLANS NEVER MATERIALIZED AND AGANA TODAY, DESPITE ITS MODERN BUILDINGS, STILL HAS NOT ACHIEVED THE SPLENDOR OF THE PRE-WAR DAYS.

IN 1975, THE NATIONAL PARK SERVICE GUAM RECEIVED A $7,000 GRANT FROM THE NATIONAL PARK SERVICE, WHICH WAS MATCHED WITH AN EQUAL AMOUNT LOCALLY, THAT WAS USED FOR INITIAL RESTORATIONS TO THE PLAZA. THE AMERICAN BICENTENNIAL COMMISSION AWARDED $43,000 TO THE PROJECT IN 1976. AND, IN 1979 $125,000 FROM THE HISTORIC PRESERVATION FUND, MATCHED WITH $130,000 FROM OUR LOCAL TOURIST ATTRACTION FUND, WAS USED TO FURTHER RESTORATION AND PLANS FOR THE RECONSTRUCTION OF THE GOVERNOR'S PALACE.

YOUR FAVORABLE CONSIDERATION OF THIS $4.2 MILLION PROJECT WOULD MEAN A SIGNIFICANT STEP FORWARD IN THE ECONOMIC STABILITY OF OUR TOURISM INDUSTRY. WITH A FULLY RESTORED GOVERNOR'S PALACE, MUSEUM AND PLAZA DE ESPANA, WE COULD GUARANTEE OUR TOURISTS A HIGH QUALITY ATTRACTION. I AM TOLD THAT SUCH A PROJECT COULD INSURE AN EXTRA DAY'S STAY FOR EACH OF OUR 300,000 ANNUAL VISITORS, MEANING A BOOST IN OUR GROSS ISLAND PRODUCT OF SOME $30 MILLION A YEAR.

ON GUAM, I AM WELL KNOWN FOR MY ADVOCACY OF AGRICULTURAL ENTERPRISE. I COINED THE TERM "GREEN REVOLUTION" TO APPLY TO THE FANTASTIC ECONOMIC BENEFIT THAT COULD ACCRUE TO OUR PEOPLE IF ONLY THEY WOULD TAKE THE TIME AND THE CARE TO GROW EVEN A SMALL PORTION OF WHAT THEY EAT.

HOWEVER, IN ORDER FOR THE TERRITORY'S AGRICULTURAL BASE TO CONTINUE DEVELOPING, ITS AGRICULTURE, HORTICULTURE AND ORNAMENTAL NURSERY INDUSTRIES REQUIRE THE ABILITY TO ECONOMICALLY IMPORT PLANTS FOR PROPAGATION. UNDER CURRENT

QUARANTINE LAWS, SUCH SHOOTS, WHICH ARE MOST READILY AVAILABLE IN ASIA, MUST CLEAR THE U.S. DEPARTMENT OF AGRICULTURE INSPECTION STATION IN HAWAII.

THE HAWAII STATION IS ALREADY OVERLOADED AND USDA OFFICIALS HAVE INFORMED US THAT THEY CANNOT ACCOMMODATE IMPORTS TO GUAM THROUGH THAT STATION.

USDA HAS STATED THAT IT CANNOT FUND THE CONSTRUCTION OF A GUAM POST ENTRY INSPECTION AND QUARANTINE FACILITY. WE ASK YOUR FAVORABLE CONSIDERATION OF OUR $357,000 REQUEST TO BUILD THIS IMPORTANT FACILITY THAT IS VITAL TO DEVELOPMENT OF GENUINE AGRICULTURE ON GUAM.

AS IN MOST OTHER U.S. JURISDICTIONS, GUAM'S CRIME PROBLEM IS SIGNIFICANTLY ATTRIBUTABLE TO OUR YOUTH OFFENDERS. IN DEALING WITH THE JUVENILE CRIME PROBLEM WE HAVE THE CHOICE OF TREATING OFFENDERS AS ADULTS OR PROCESSING THEM THROUGH INADEQUATE JUVENILE JUSTICE FACILITIES.

OUR ADULT CORRECTION FACILITIES, AS I MENTIONED EARLIER, ARE BAD ENOUGH. SUBJECTING OUR YOUTH OFFENDERS TO THE ADULT SYSTEM VIRTUALLY GUARANTEES THAT THEY WILL BECOME PERMANENT MEMBERS OF THAT ADULT CRIMINAL SOCIETY.

OUR JUVENILE FACILITIES ARE UNABLE TO SEPARATE FIRST-TIME STATUS OFFENDERS FROM HARDCORE REPEATERS. THE FACILITY IS TOTALLY INADEQUATE, AS WELL, FOR THE REPEATERS.

YOUR FAVORABLE CONSIDERATION OF $669,000 FOR THE RENOVATION AND EXPANSION OF THE JUVENILE DETENTION FACILITY WILL ALLOW US TO MEET THE MINIMUM LEGAL RESIDENTIAL REQUIREMENTS FOR THE DETENTION OF JUVENILE STATUS OFFENDERS.

BEFORE CLOSING, I BEG YOUR INDULGENCE TO HIGHLIGHT FOR THE COMMITTEE A PROBLEM THAT MAY, QUITE SOON, REQUIRE YOUR ATTENTION.

AS I HAVE ALREADY MENTIONED, GUAM IS DOING HER UTMOST TO PROVIDE FOR HER OWN NEEDS. WE ARE VERY PROUD OF OUR RECORD IN RAISING REVENUE NECESSARY THROUGH VIGOROUS ENFORCEMENT OF ALL TAX LAWS. THIS BODY IS CURRENTLY GIVING ITS SERIOUS CONSIDERATION TO SIGNIFICANT TAX REFORMS. AS YOU KNOW, THE GUAM TERRITORIAL INCOME TAX LAW "MIRRORS" THE U.S. INTERNAL REVENUE CODE. ANY CHANGE IN THE FEDERAL TAX LAW AUTOMATICALLY CHANGES THE GUAM TAX LAWS. IN LIGHT OF THIS, WE ASK THAT THE CONGRESS GIVE SERIOUS CONSIDERATION TO THE IMPACT TAX REFORMS MAY HAVE ON GUAM IN TERMS OF HER REVENUE BASE AND POTENTIAL ECONOMIC GROWTH.

MR. CHAIRMAN, AGAIN I WOULD LIKE TO THANK YOU AND THE COMMITTEE FOR YOUR ATTENTION TO GUAM'S NEEDS. I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.

SUMMARY STATEMENT OF RICARDO J. BORDALLO

Governor BORDALLO. If I may, Mr. Chairman?

Senator JOHNSTON. Yes, please.

Governor BORDALLO. Also very glad to see you, Senator, because it always reminds me of the wonderful courtesy you rendered our people when you came to my first inauguration. People still remember you fondly back in Guam. I realize it was such a long trip and somebody as busy as you are—back in those days when you were chairing the committee which made it even that much more demanding.

The two individuals here with me, of course, are for support in some of the statistical information that I might need to support the testimony. The testimony is already a matter of record and I would not belabor reading it. But I would just like to make a few comments and observations.

The gentlemen to the far right, of course, you probably already are familiar with Speaker Carl Gutierrez, Mr. Chairman.

AUTHORIZATIONS

I'd like to express some feelings about some of the observations that impact on the relationship between the Federal Government and the territory or specifically the Congress. Those areas of governmental procedures that are very commonplace here in the lower 48 States can many times be very confusing to our people when in the past our people heard that appropriations were authorized.

People equated that with moneys forthcoming. Many times our people in the territories are criticized for mismanagement, squandering U.S. taxpayers' money; generally not, perhaps, too serious about the way some of these moneys are spent.

Yet, there's another side to this coin and many of our people are sometimes very, very confused whether or not the Federal Government meets up with their commitment because it's very difficult for the territories to plan for future development to be told that there's $10 million authorized for renovating a hospital and a whole decade practically goes by without the moneys being available. And if they don't plan—because it's a catch 22. You don't plan if you don't think you're going to get the money and if you plan and invest in the plans like I did one time, $500,000 hard dollars, hard-to-come-by dollars for a high school, and up to now we can't build the high school. That's, to me, a real waste.

I'd like to just comment that you'll notice that the first three items of this testimony calling for funds are actually authorized and have been authorized for quite a period of time. The water was only, I believe, authorized last year in the latest Omnibus Act.

But officials—high officials of the executive branch, Department of the Interior, admitted about the crisis situation of water. Then people get inspired because they hear that the Congress came through with an authorization but when the moneys don't actually come through, they don't understand the difference between these two things.

I'm saying this, Mr. Chairman, because I hope that it might fall on the sympathetic ears that maybe hopefully it's not to just ask for being special—to be specially treated, unfairly against the people up here in the mainland. But I think because the territories are just what they are, they're emerging, developing small communities far removed from Congress.

I think we'd like to ask for a reasonable consideration that we not be so strapped down by these two procedures and not ever knowing whether or not authorizations will be translated into appropriation, so we can plan better or at least know that there's some form of real integrity and commitment to an authorization.

In my first term, the Congress authorized $36 million for a deficit reduction plan for the Government of Guam, primarily because it keeps demanding of the territory to establish fiscal integrity. Yet, it's the authorization that did not have integrity because not a single penny of that authorization reached us and the 4- or 5-year limitation came about so that the law expired and we didn't get a single penny for it.

It's not in my testimony; I just thought I'd mention this because it's to give you an idea of what the leadership in our territories, many times, have to go through and if we're criticized many times for maybe being not too effective in bringing about proper development in the territories, I submit that for your consideration.

GOVERNOR'S PALACE

The other comment falls under the second of my three-part submission. And I realize that in privacy is where most of this discussion takes place between the Senators and staff.

And as you see that the first three items—cover very basic human needs, water, a free-standing hospital for mental patients, and similar nature items. And followed by restoration of a palace which—you might say, my God, what's going on here, the Governor's palace—which is to be restored for $4 some million.

Well, I would not hesitate to provide a little background on that, Mr. Chairman, because I think it's probably the saddest story of Guam that can be told in this Capital. I was the last Guamanian to enter Agana when it was burning like hell's inferno when it was being shelled by the Navy.

I even met the radar officer as an admiral along with the commander-in-chief, Pacific fleet when I was Governor the first time asking him, who got the bright idea of just totally destroying Agana. And he humbly crouched at that dinner table of only six people—three biggest admirals in the Pacific, myself, and Bishop Florres at the time. And he says, "Governor, I hate to admit it but I was the radar officer at the time. My rank was a commander." I said, "Don't you think that the Japanese would have enough sense to know that they won't hide under those buildings; it'll be suicidal. They were all dug in caves and your frogmen knew that."

But it makes for excellent fireworks and, perhaps, big news coverage as those big 16-inch guns were firing on our city. This was in the only organized American community that was occupied during the Second World War, yet we declared Rome a free city; Paris a free city; save these things, you know, for the world. But when it comes to little Guam, blast the hell out of them.

In the meantime, they promised they were going to restore Agana to be a Santa Monica of the Pacific and the minute V.J. Day came around, they all pulled out and never made up to the commitment.

To me it's a very tender spot and a sensitive spot. But I felt since tourism is the only one viable industry we have on our island, it would mean a lot for the cultural identity of Guam to restore the former Governor's palace and have this at least one thing that was destroyed during World War II, burned out completely, and never rebuilt. Like the War of 1812 when the White House was burned down, quickly after things settled down, it was rebuilt.

But not for Guam and, hopefully, that some of the cultural beauty of our island will have a symbol for the attraction of tourism on Guam because many times we're criticized that all we have to offer is beaches, sun, and sand. What difference is that with any other of these tropical islands. That's common. But that's because they don't know of the beautiful culture of our people and how beautiful Agana was as a city in that small Pacific island.

I think to make it clear, Senator, would be for you to just think of old San Juan in Puerto Rico, probably one of the most attractive parts of Puerto Rico for tourism. It would have been a great investment for our tourist industry. And I'm sure that little by little if we can restore some of these losses, we might then provide even greater attraction for visitors to come to Guam and not just mostly Japanese. We'd like to start seeing our own fellow Americans start being attracted to Guam like they're attracted to Hawaii because while Hawaii is good, Guam is better.

And that information has got to get out to America, they better wake up that Guam isn't this one flat piece of land out there where B–52's land and Polaris submarines leave from. We're proud of that because we're proud of the fact that we're the bastion of America for democracy out there.

But there's another side of Guam and that is that it's a very, very beautiful island and we welcome our fellow Americans to be coming out and seeing us. So I just wanted to point that out, Senator, and to close my statement I would like to emphasize that our government today can be very proud.

The record will prove that evidence of self-help has never been as pronounced as it is today. And the many areas that we have implemented privatization of certain government activities which really should be in the private sector, that tremendous amount of growth has taken place in this area.

In fact, just today, the bond, the highway bond, is in the New York market. They're still tampering with the market, hopefully, to get the lowest interest rate. And maybe within another day, that transaction will be closed whereby we are prepared to try to catch up with the highway needs of our community using private capital rather than coming up here for additional support above what we already get from the United States.

So I want to emphasize these two points. I don't want to take too much time listing them individually, but we have privatized a lot of activities already within our government, so that this further reduces the cost of government. And I'd like to say this in order that you be assured that as we seek help, these requests can be backed up with full merit and show you that in areas that government ought not to be involved we have made all the necessary attempts to transfer such activities into private hands.

Thank you very much, Mr. Chairman.

GUAM PENITENTIARY

Senator JOHNSTON. Thank you very much, Governor. I have a couple of points. First of all, on the prison, I know the cost has gone up from the original estimate of $10,300,000. Now there's an indication that $12,400,000 will only complete phase two work.

My first question is, on the completion of phase two work, how many inmates will the penitentiary house?

Governor BORDALLO. Yes; the total inmates is 41, I believe, yes, per dorm. And we have——

Senator JOHNSTON. You say, 41?

Governor BORDALLO. Yes.

Senator JOHNSTON. Upon the completion of phase two?

Governor BORDALLO. Let me refer this to Dave Santos, who is the chairman of the fiscal policy.

Mr. SANTOS. Mr. Chairman, phase two includes a series of other structures other than just dormitory facilities, but each dormitory will only house a maximum of 41 to 45 inmates. We have asked the local Guam legislature in the Governor's fiscal year 1986 budget for at least a $2 million additional funding for another dormitory in the existing prison facility to supplement the amount we are asking today, assuming——

Senator JOHNSTON. How much will it cost to complete the whole project?

Mr. SANTOS. I don't have that information right now. I believe it's in the capability statement.

Senator JOHNSTON. Are we almost finished with phase two, or is that halfway through?

Mr. SANTOS. Phase two has not started. Phase one is totally completed.

Senator JOHNSTON. Well, how much will it cost beyond phase two?

Mr. SANTOS. I would say, probably another—about $6 million.

Senator JOHNSTON. Another $6 million?

Mr. SANTOS. Right now, the current facility, phase one, has a potential to house 71 inmates. There are currently 154 being housed in that phase one facility.

Senator JOHNSTON. Has the scope of the project changed at all since it was originally conceived?

Mr. SANTOS. No; the scope of the project has not changed. The cost has changed because the original estimates were based on, I believe, 1979 dollars. And the cost today, because of inflationary and other adjustments, has exceeded the original projected amounts.

TAX COLLECTION FAILURE

Senator JOHNSTON. Governor, I understand that the Government of Guam has failed to collect taxes legally due it under the gross receipts tax.

Is this correct? And, if so, why is Guam not collecting these taxes?

Governor BORDALLO. That question is of the nature that it should be referred to this gentleman, because the gentleman, aside from being the chairman of the fiscal policy is the director of revenue and tax.

Mr. SANTOS. I believe you are referring to a report that was issued by the Inspector General's Office of the Department of the Interior. Let me give you some history behind this.

Prior to 1984, January, to be exact, there was some ambiguity in the interpretation of Guam's gross receipts tax laws that apply to export sales. We're only talking about the export sale issue at this point.

In January 1984, I issued a ruling affirming the applicability of that particular excise tax, on our export sales, because the local law does not allow for an exemption.

Now, before that, there was inconsistency in the treatment. Some businessmen were paying taxes on export sales; others were not.

As a result of that ruling, the business community developed the lobbying effort with the Guam legislature and also with the executive branch, because those people that had not been paying GRT, many of them felt that it would price them competitively out of the market, being wholesalers, and they would have to uproot their businesses and move elsewhere, either to Hawaii or the west coast.

That 4-percent tax margin that, in their opinion, was previously exempt, was their profit margin. And they felt that they would be priced out of competition.

As a result of that, in response to the economic growth concern that the territory shares, both the Governor and the legislature, the legislature passed a bill retroactively exempting gross receipts taxes on those particular export items.

When that bill came before the Governor's desk, we were concerned about the retroactive provision because those wholesalers that were paying taxes would then be filing refund claims. And we estimated that refund claims to be a multimillion dollar figure. And we could not at that time afford to pay out an additional $5 to $6 million in refunds because the general fund was in a serious deficit situation at that time.

As a compromise, the Governor agreed in his veto message, with the speaker, that he would support a prospective exemption because he felt that economic policy must transcend tax policy, which we all agreed to.

As a result of that, the legislature subsequently passed a bill prospectively exempting gross receipts taxes on export sales—that's sales to points outside of Guam—with the understanding that the administration would not pursue the applicability of gross receipts taxes on prior year returns, gross receipts tax returns.

As a result of that understanding and that law being enacted, I issued an internal policy memo to my tax administration employees imploring them that prior-year returns would not be selected for examination for purposes of applying the gross receipts taxes.

The inspector general disagreed with that policy and we responded essentially on the points that I just brought out, that economic policy must be given higher priority over tax policy if one-half of these wholesalers, or even a small portion of them have to leave Guam or just completely quit their business because they will not be competitively priced with outside wholesalers or exploiters. Those were the tradeoffs we would have to look at.

In a sense, the plan was revenue neutral, that Guam would not have to pay out any additional refunds, neither would additional moneys be covered into the Guam treasury.

My concern about that particular report, Mr. Chairman, is that it appears to look like the Government of Guam, through the department of revenue and taxation, has been perhaps not responsible in its collection duties.

I would like to state for the record that, beginning in 1983 when the Governor took office and in cooperation with the legislature, we have been able to increase our revenue collections by almost 22 percent. We have initiated many seizure actions. In fact, we are competing, positively, of course, in a friendly spirit, with the local IRS office in trying to tax the same dollars. And we have been beating the IRS, and I'm proud of that record.

So, again, the essence behind that particular report was one of economic policy. It was a territorial policy that was supported by both the legislature, the executive branch, and the business community.

Senator JOHNSTON. Thank you very much.

Governor, thank you for an excellent statement, and, gentlemen, I appreciate very much your being here.

SUMMARY STATEMENT OF CARL GUTIERREZ

Mr. GUTIERREZ. Mr. Johnston, my name is Carl Gutierrez. I'm the speaker. Can I just make a comment?

Senator JOHNSTON. The speaker? Glad to have you here.

Mr. GUTIERREZ. Thank you. I got lumped in here with the staff. But, of course, it's always a pleasure to be here. This is the time of year that

I hate to sit up here because I know that we do always support more appropriations and the administration is in the back of us, giving us all these daggers.

Senator JOHNSTON. I want you to know that we pay more attention around here to legislative members than we do executive branch members.

Mr. GUTIERREZ. That's what I figured. [Laughter.]

That's why I feel fine that you're up there. And I would like to associate myself with the comments of Congressman Ben Blaz and, of course, to show my appreciation to you for knowing what Guam is all about. Guam is, in fact, in a special circumstance that I don't believe the Congress of the United States should even falter to give Guam its due appropriations for infrastructural development so that we can, in fact, be the showcase of democracy in the Western Pacific, right in the middle of the Asian-rim countries.

ECONOMIC RESTRAINTS

The fact of the matter is that I am here supporting the Governor and his administration on his request for additional funds and for the priorities he has set forth. But I would like to say that I always like to come before an oversight committee also because we don't know of any other forum. I know you know about Guam, but we would like to get rid of some of those economic restraints that we have with Federal laws.

One in particular is this country of origin regulation that was imposed by President Reagan back in August. That sort of undermined the Headnote 3A Program that was instituted for the territories as a means of having a concession to be able to economically be viable in such a remote area.

I'm requesting, and my testimony, hopefully, will be part of the record, that once and for all, that this country of origin regulation be amended, regulations that Treasury doesn't say one thing and then Customs says another thing on what it means. We can be economically viable, Mr. Senator, only by giving Guam and the other territories a legal funnel to be able to take some of these illegal activities that are going on in Asia insofar as the country of origin regulations dealing with the quotas of textiles.

And if Guam could be a legal funnel to take even 1 percent of that $100 billion activity going on in Asia, that we can, in fact, absorb at least 1 billion dollars' worth of that industry in Guam and provide 100 percent employment. So that we may not be coming in here all the time with our—for our just due, although they say it's a handout. And maybe that one of these days that Guam would be looked upon as an asset to the United States instead of a liability, which most of the people in the Washington circles look at Guam as a liability.

And one thing that——

Senator JOHNSTON. Excuse me, I would have to challenge that, Mr. Speaker.

Mr. GUTIERREZ. Well, present company excepted.

MILITARY LAND USE

But, Senator, this one other thing also is, as a point of information, is that Guam, being in that unique circumstance, having one-third of its land area being used by the military for national defense and world peace, one particular program that you have here in relation to the Washington, DC, area, where approximately $300 million is being paid in Federal payments to the District of Columbia, for uses of its land for such things as the Smithsonian Institute, for all these monuments.

And if anybody challenges why Guam should get appropriations, one-third of its land is being used by the Federal Government and for, I'm sure, just as important a purpose.

Senator JOHNSTON. I think you make a good point there, Mr. Speaker, and we appreciate those additional points which you have made and always welcome your testimony. And, next time, we're going to put all the legislative members first. [Laughter.]

Mr. GUTIERREZ. I appreciate that. Thank you.

Senator JOHNSTON. Thank you.

I would like to say to Governor Bordallo before he leaves—is he still in the back? We appreciate your leadership on the compact of free association as well. It's been very helpful in those matters for the Congress.

American Samoa

STATEMENT OF GOV. A.P. LUTALI, PRESIDENT OF THE SENATE, AMERICAN SAMOA

ACCOMPANIED BY:
  LETULI TOLOA, PRESIDENT OF THE SENATE
  TUIAFONO P. MATA'UTIA, SPEAKER OF THE HOUSE OF REPRESENTATIVES

PREPARED STATEMENTS

Senator JOHNSTON. All right, we would next like to welcome the Governor of American Samoa, Mr. A.P. Lutali.

Governor, we are glad to have you here. First we will insert all the statements in the record at this point.

[The statement follows:]

STATEMENT OF A.P. LUTALI

MR. CHAIRMAN AND DISTINGUISHED MEMBERS OF THE COMMITTEE, I AM INDEED PRIVILEGED AND HONORED TO APPEAR BEFORE YOU TODAY AS THE TERRITORY OF AMERICAN SAMOA'S CHIEF EXECUTIVE, TO OFFER TESTIMONY AND APPROPRIATE JUSTIFICATION ON OUR FISCAL YEAR 1986 BUDGET SUBMITTED BY THE PREVIOUS ADMINISTRATION . FOR THIS BASIC REASON, ADJUSTMENTS HAVE BEEN MADE IN ORDER TO REFLECT THE ASPIRATIONS OF MY ADMINISTRATION, WHICH ARE ALIGNED CLOSELY WITH THE POLICIES OF THE UNITED STATES RESPECTING ITS INSULAR POSSESSIONS.

I ACKNOWLEDGE, WITH THE GREATEST SENSITIVITY, THE AWESOME RESPONSIBILITY FACING THE COMMITTEE IN ITS EFFORTS TO BALANCE COMPETING DEMANDS ON FINITE RESOURCES, AGAINST THE ULTIMATE NATIONAL OBJECTIVE OF MINIMIZING THE FEDERAL DEFICIT. LET ME ASSURE YOU THAT THE AMERICAN SAMOA GOVERNMENT WILL STRIVE TO PLAY ITS PART IN ENSURING THAT THIS OBJECTIVE IS MET.

IN THE RECENTLY RELEASED YEAR END FINANCIAL STATEMENT FOR FISCAL YEAR 1984, A $2.4 MILLION DEFICIT IS RECORDED. THIS COUPLED WITH OTHER LEGAL OBLIGATIONS, ENTERED INTO BY THE PREVIOUS ADMINISTRATION, EXACERBATES OUR ALREADY BLEAK FINANCIAL PICTURE. IN MY FIRST WEEK IN OFFICE, COST CONTAINMENT MEASURES WERE PUT IN PLACE IN ADDITION TO AN ACROSS THE BOARD 10% (TEN PERCENT) BUDGET REDUCTION FOR ALL GOVERNMENT AGENCIES. I REGRET TO INFORM YOU, THAT LARGE AGENCIES LIKE HEALTH, PUBLIC WORKS, EDUCATION AND COMMUNITY COLLEGE CANNOT PROVIDE CURRENT SERVICE LEVELS WITH THE MANDATED REDUCTION. MY OWN OFFICE IS DESPERATELY TRYING TO FIND FUNDS TO MAINTAIN ITS OPERATION, FOR IN MOST PARTS, THE ACCOUNTS WERE IN DEFICIT POSITIONS WHEN WE TOOK OFFICE.

WE ARE CAREFULLY REVIEWING ALL OBLIGATIONS TO ENSURE THAT THOSE PROJECTS WE DECIDE TO POSTPONE WILL NOT CREATE ANY LEGAL PROBLEMS FOR US. THE BIGGEST PROBLEM THAT MY ADMINISTRATION IS CONFRONTING IS THE FACT THAT THE FY 1984 GENERAL GOVERNMENT PAY RAISE HAS INCREASED OUR FISCAL YEAR 1986 SUBMISSION BEYOND PROJECTED FINANCIAL RESOURCES. WHILE FUNDS WERE SUPPOSEDLY EARMARKED FROM WINDFALL PROFITS REALIZED IN FY 1984, THE INCREASE

WAS NEITHER INCORPORATED IN THE FY 1985 BUDGET NOR THE BUDGET PLANNING FOR FY 1986. THE NET EFFECT IS THAT GOVERNMENT EMPLOYEES RECEIVED DOUBLE INCREMENTS (10%) IN FY 1985 PLUS THEIR PROPOSED REGULAR INCREMENT IN FY 1986. SINCE THE RAISE WAS NOT INCORPORATED IN THE FY 1986 PRELIMINARY BUDGET SUBMISSION, ADJUSTMENTS WERE MADE TO REFLECT THE CHANGES TO THE GOVERNMENT'S OVERALL PERSONNEL OBJECT CLASS.

OUR REVISED FY 1986 BUDGET REPRESENTS THE EFFORTS OF MY ADMINISTRATION TO ACCOMPLISH ITS PRIORITIES IN ACCORDANCE WITH OUR PEOPLE'S MANDATE. WHILE LITTLE FLEXIBILITY WAS AVAILABLE TO ME TO RESHUFFLE OUR FY 1986 BUDGET, MAXIMUM EFFORT WAS EXPENDED TO BEGIN IMPLEMENTATION OF MY ADMINISTRATION'S OBJECTIVES. MY TESTIMONY BEFORE THE OVERSIGHT HEARING IN MARCH, AND THE RESULTANT REQUESTS FOR ADDITIONAL FUNDS TO FINANCE PRIORITY ITEMS OF MY ADMINISTRATION, REFLECT MY INITIATIVES RESPECTING COMMENCEMENT OF THIS PROCESS.

ALTHOUGH THE PRESIDENT'S BUDGET REFLECTS ONLY $20.7M OF THE TERRITORY'S $23M ORIGINAL SUBMISSION, I IMPLORE YOU TO RESTORE THE $3.1M TO OUR FY 1986 BUDGET. DENIAL OF THIS REQUEST WILL DEVASTATE THE EFFORTS OF MY ADMINISTRATION TO MAINTAIN AMERICAN SAMOA GOVERNMENT'S CURRENT SERVICE LEVELS, LET ALONE ALLOW US TO IMPLEMENT PROGRAMS THAT REPRESENT THE PEOPLE'S MANDATE TO ME. THE ORIGINAL FY 1986 SUBMISSION OF $23M DID NOT INCLUDE THE RAISE EXECUTED IN SEPTEMBER OF 1984. THE $3.1 RECISSION WILL FURTHER IMPACT THE AMERICAN SAMOA GOVERNMENT'S ALREADY WEAKENED FINANCIAL POSITION.

THE RESTORATION OF THE $3.1 BUDGET CUT IS INSUFFICIENT TO ACCOMMODATE THE NEEDS OF THE AMERICAN SAMOA GOVERNMENT FOR ITS BASIC OPERATION. IN FACT, THE TERRITORY NEEDS AN ADDITIONAL $2.8 MILLION TO TOTALLY MEET ITS FY 1986 NEEDS. THE INCREASE IN OUR FY 1986 REVISED SUBMISSION IS ATTRIBUTED TO THE GENERAL PAY RAISE FOR THE GOVERNMENT EXECUTED IN FY 1984; THE SALARY RECLASSIFICATION FOR THE DEPARTMENTS OF HEALTH AND PUBLIC SAFETY WHICH HAVE BEEN REPEATEDLY REQUESTED PRIOR TO MY ASSUMING OFFICE; AND THE

REEMPLOYMENT OF MARINE RAILWAY EMPLOYEES WHO HAVE BEEN RELEASED BY THE SOUTHWEST MARINE OF SAMOA, INC. MOST OF THE 40 FURLOUGHED EMPLOYEES HAVE SERVICE OF OVER 10 YEARS. A POLICY HAS BEEN ESTABLISHED GUARANTEEING REEMPLOYMENT OF EMPLOYEES RELEASED BY THE CONTRACTOR OF THE PRIVATIZED ACTIVITY.

I AM PARTICULARLY CONCERNED WITH THE CONTINUED REDUCTION OF FEDERAL RESOURCES AVAILABLE FOR THE TERRITORIES, BECAUSE NO CONSIDERATION IS ALLOTTED TO THE EFFECT OF INFLATION ON ALREADY REDUCED ALLOCATIONS. FOR EXAMPLE, IF FY 84, FY 85 AND FY 86 ALLOCATIONS ARE COMPARED, WE FIND THAT RESOURCES HAVE ONLY INCREASED BY 1.8% WHILE PRICES HAVE RISEN 19%. IF THE FY 84 DOLLAR IS USED AS THE BASE, THE TERRITORY NEEDS $24.5M TO PAY FOR THE SAME SERVICES IN FY 86. IF THE BASE YEAR IS 1978, THE SAME SERVICES WOULD COST $33.1M TODAY. HENCE, THE AMERICAN SAMOA GOVERNMENT IS LEFT TO ABSORB THE $12.4M (33.1 - 20.7 DOI FY 1986 ALLOCATION) OF ADDED COST. THIS FACTOR CONTRIBUTED TO THE FINANCIAL CRISIS EXPERIENCED BY THE TERRITORY IN FY 1983. THE PRESENT ECONOMIC SYSTEM OF THE TERRITORY HAS REACHED A POINT OF DIMINISHING RETURNS WITH REGARD TO REVENUE GENERATION. FOR THIS REASON, WE ARE PETITIONING YOUR SUPPORT TO ASSIST US TO SATISFY THE PRESENT NEEDS OF OUR PEOPLE AS REFLECTED IN OUR BUDGET REQUEST, WHILE WE DEVISE MEANS TO RAISE OUR REVENUE GENERATING CAPABILITIES. I AM ENCOURAGED WITH OUR ECONOMIC POSSIBILITIES WITH THE EXPANSION PROGRAMS OF OUR TWO TUNA CANNERIES, THE PRIVATIZATION OF THE MARINE RAILWAY, AND OTHER ECONOMIC PROGRAMS WE PLAN TO IMPLEMENT. I AIM TO METICULOUSLY REVIEW OUR EXISTING REVENUE MEASURES AND PROPOSE NEW ONES TO RAISE THE LEVEL OF LOCALLY GENERATED REVENUES. THE FOLLOWING MEASURES ARE BEING PROPOSED TO ACCOMPLISH THIS OBJECTIVE.

1. INCREASE VEHICLE EXCISE TAX TO 20% PERCENT.
2. RAISE EXCISE TAX ON BEER, ALE, LIQUOR, AND CIGARETTES BY 50%.
3. INCREASE BUSINESS LICENSE FEES TO $250.

4. INCREASE EXCISE TAX TO 100% OF THE BASIS OF FIREARMS AND FIRE AMMUNITION.
5. INCREASE THE TAX ON FUEL MANUFACTURED FOR USE IN MOTOR VEHICLES BY 2 CENTS TO 13½ CENTS PER GALLON.
6. RAISE THE TAX ON FUEL MANUFACTURED FOR USE IN DIESEL ENGINES, OTHER THAN AIRCRAFT FUELS BY 1/2 CENT TO 4 CENTS PER GALLON.
7. RAISE THE TAX ON KEROSENE AND SIMILAR PETROLEUM PRODUCTS BY 1/2 CENT TO 2 CENTS PER GALLON.
8. INSTITUTE A GROSS SALES TAX.
9. IMPROVE GOVERNMENT COLLECTION EFFORTS.

THESE REVENUE MEASURES ARE PROJECTED TO RAISE THE GOVERNMENT'S LOCALLY GENERATED FINANCIAL RESOURCES BY 15-20 PERCENT.

FOR OUR CAPITAL IMPROVEMENT PROJECT NEEDS, WE HAVE REQUESTED, IN ADDITION TO THE $1.5M FOR THE ADMINISTRATION BUILDING, $746,000 FOR THE FAGATOGO CORRIDOR, AND $1.5M FOR THE EXTENSION OF OUR WATER SYSTEM FROM AUA TO AUMI. THESE ARE INCLUDED IN THE PRESIDENT'S BUDGET ALSO, WE REQUEST $2.0M FOR ADDITIONAL CLASSROOMS, $1.5M TO RESOLVE OUR CHRONIC TRANSPORTATION PROBLEM TO MANU'A, $980,000 FOR MORTGAGE FINANCING AND $1.6M FOR GYMNASIUMS FOR OUR HIGH SCHOOLS. THE LATTER FOUR PROJECTS ARE CRITICAL TO THE EFFORTS OF MY ADMINISTRATION IN RESOLVING GROWING PROBLEMS IN THESE AREAS.

THE TERRITORY'S SCHOOL AGE POPULATION IS GROWING AT 3% PER YEAR. IT IS PROJECTED THAT BY 1990, 15,848 PERSONS WILL NEED TO BE SERVED. THE AMERICAN SAMOA GOVERNMENT, GIVEN ITS GROSSLY INADEQUATE AND ALREADY DILAPIDATED SCHOOL FACILITIES, IS IN NO POSITION TO ACCOMMODATE ANY ADDITIONAL DEMANDS. THE PRESENT TEACHER/STUDENT RATIO IS 1:35 COMPARED TO THE UNITED STATES AVERAGE OF 1:20. THESE CROWDED CONDITIONS MAKE THE TEACHER INEFFECTIVE AND REDUCE THE STUDENTS' INCENTIVE TO LEARN. OUR STUDENTS ARE ALREADY DISADVANTAGED BY THEIR NEED TO MASTER AND COMPREHEND THE ENGLISH LANGUAGE, SO BASIC IN UNDERSTANDING OTHER SUBJECT MATTERS. IT IS

VITAL FOR US, THEREFORE, TO CREATE A CONDUCIVE CLIMATE FOR LEARNING. A PREREQUISITE, I BELIEVE, IS THE PROVISIONING OF THE NECESSARY PHYSICAL FACILITIES TO COMPLEMENT OUR OTHER EFFORTS, SUCH AS INCREASING AND UPGRADING OUR TEACHERS TEACHING CREDENTIALS.

PROLIFERATION IN THE NUMBER ENTERING EARLY CHILDHOOD EDUCATION PROGRAMS IS GRADUALLY POSING A PROBLEM. INSTRUCTION IS BEING HELD IN PRIVATE HOMES. ALREADY DEMANDS HAVE BEEN MADE FOR THE GOVERNMENT TO CONSTRUCT PROPER FACILITIES TO HOUSE THESE ECE CLASSES. WE CANNOT SERIOUSLY ADDRESS THIS ISSUE AMIDST OVERCROWING PROBLEMS IN THE ELEMENTARY AND SECONDARY SCHOOLS; THE RAPID DETERIORATION OF OLD SCHOOL STRUCTURES, THE ABSOLUTE NEED TO IMPROVE OUR STUDENT TRANSPORTATION NETWORK, AND THE CORRESPONDING DEMAND FOR RESOURCES TO PURCHASE SUPPORT MATERIALS FOR THE EDUCATIONAL SYSTEM.

NO DOUBT, OUR CONGRESSMAN SUNIA HAS IMPRESSED ON YOU THE EXISTING CHRONIC TRANSPORTATION PROBLEM WITH THE MANU'A ISLANDS. ONLY RECENTLY, A SECOND AIRLINE HAS RESUMED ITS SERVICES TO MANU'A. HOWEVER, LIMITED CARGO CAPACITY OF THE AIRLINES PRECLUDE SATISFACTION OF THE BASIC NEEDS OF OUR MANU'A RESIDENTS. IN REALITY, THIS SITUATION HAS DOUBLED OR EVEN TRIPLED THE COST OF THE STANDARD MARKET BASKET COMPARED TO THE RESIDENTS OF TUTUILA. DEVELOPMENT EFFORTS PROPOSED ARE TERMED UNECONOMICAL DUE TO THE ABSENCE OF A REALIABLE TRANSPORTATION LINK AMONG THE AMERICAN SAMOA ISLANDS. THE PRESENT BRAIN DRAIN FROM MANU'A TO TUTUILA IS ALMOST ABSOLUTE; A CONDITION THAT FURTHER CREATES DEVELOPMENT PROBLEMS. THE $1.5M PROPOSED FOR AN LCU TYPE VESSEL TO SERVICE OUR MANU'A ISLANDS REFLECTS THE HOPES AND DESIRES OF PEOPLE WHO HAVE LONG BEEN SOCIALLY AND ECONOMICALLY DEPRIVED.

I HAVE AGAIN REQUESTED FUNDS FOR HOME MORTGAGE FINANCING, FOR THERE IS NO OTHER FUNDING AVENUE AVAILABLE TO US TO MEET THIS IMPORTANT NEED, GIVEN OUR LAND TENURE SYSTEM. AVAILABLE FEDERAL HOUSING PROGRAMS DO NOT PRESENTLY EXTEND COVERAGE TO OUR TERRITORY BECAUSE OF OUR UNIQUE LAND SYSTEM. WE HAVE INITIATED EFFORTS TO RAISE MORTGAGE FINANCING INTERNALLY, SUCH AS THE INVESTMENT OF

$2M FROM OUR RETIREMENT FUND. WE HUMBLY REQUEST YOUR CONTINUED SUPPORT IN THIS AREA.

THE DEPARTMENT OF INTERIOR CUT $746,900 EARMARKED FOR REPLACEMENT OF OLD AND ACQUISITION OF NEW MEDICAL EQUIPMENT. MEETINGS WERE HELD IN HONOLULU, IN FEBRUARY OF THIS YEAR, BETWEEN THE DEPARTMENT OF INTERIOR AND TERRITORIES TO SEEK SOLUTIONS TO THE MOUNTING DEBT RESULTING FROM THE OFF-ISLAND REFERRAL PROGRAM. WE ARE FEELING THE PINCH OF THE RISING COST OF THIS PROGRAM, HENCE WE ARE INVESTIGATING WAYS TO NEUTRALIZE THIS PROBLEM. THE OBVIOUS SOLUTION IS TO UPGRADE THE STANDARD OF MEDICAL SERVICE OFFERED AT THE LOCAL EVEL. THE TERRITORY'S MAJOR PROBLEM IS THE ABSENCE OF EQUIPMENT NECESSARY FOR THE IMPLEMENTATION OF NEW MEDICAL TECHNOLOGY. WE HAVE WITNESSED CASES TRANSFERRED FOR OFF-ISLAND TREATMENT BECAUSE DOCTORS BASED THEIR DIAGNOSIS ON X-RAYS TAKEN BY FAULTY EQUIPMENT. FOR THIS REASON, I HAVE AGAIN PLACED IT IN OUR REQUEST FOR CIPs AS IT REPRESENTS A PIVOTAL PART OF OUR LONG TERM PROGRAM RESPECTING REDUCTION OF OUR OFF-ISLAND MEDICAL CARE PROGRAM.

FINALLY, MR. CHAIRMAN, I WISH TO REITERATE OUR REQUEST FOR THE RESTORATION OF THE $3.1M CUT FROM OUR ORIGINAL FY 1986 BUDGET SUBMISSION, FOR $2.8 FOR OBLIGATIONS ENTERED INTO BY THE PREVIOUS ADMINISTRATION, AND FOR $5.8 IN CIP REQUESTS IN ADDITION TO THOSE INCLUDED IN THE PRESIDENT'S BUDGET.

1. THE FY 1986 WAS SUBMITTED BY THE PREVIOUS ADMINISTRATION, HENCE, MINIMAL FLEXIBILITY WAS AVAILABLE TO ME TO INJECT PRIORITIES OF MY ADMINISTRATION.

2. THE PREVIOUS ADMINISTRATION CREATED LONG TERM OBLIGATIONS VOID OF ANY CONSIDERATION OF THE AVAILABILITY OF RESOURCES IN THE FUTURE TO MEET THESE ENCUMBRANCES.

3. THE DEPARTMENT OF INTERIOR HAS MADE NO ALLOWANCE FOR INFLATION ON THE TERRITORY'S ABILITY TO PROVIDE THE CURRENT LEVEL OF SERVICES AMIDST THE SLOW ECONOMIC RECOVERY FROM THE FINANCIAL CRISES

OF 1983, THE ADVERSE ECONOMIC IMPACT OF THE CLOSURE OF SAMOA PACKING, AND THE EXISTING YEAR END RECORDED DEFICIT OF $2.4M.

4. THE PROJECTED LOCAL REVENUE SOURCES OF THE TERRITORY PRECLUDE ABSORPTION OF $5.9 ADDITIONAL DEMANDS PRODUCED BY THE PREVIOUS ADMINISTRATION COMMITMENTS.

5. FEDERAL RESOURCES ARE CONTINUALLY DECLINING, THUS LOCAL RESOURCES HAVE BEEN TAPED TO CONTINUE PROGRAMS TRADITIONALLY FUNDED BY FEDERAL GRANTS.

6. THE $5.8M CIP REQUEST, IN ADDITION TO THOSE INCLUDED IN THE PRESIDENT'S BUDGET, REPRESENT MY EFFORTS TOWARDS RESOLUTION OF CRITICAL PROBLEMS IN AREAS THAT IMPACT THE PRIORITIES MY ADMINISTRATION.

IN CLOSING, MR. CHAIRMAN, I WOULD LIKE TO TAKE THIS OPPORTUNITY TO THANK THE CONGRESS AND THE MEMBERS OF THIS COMMITTEE FOR THEIR CONTINUED SUPPORT. I ALSO WISH TO ACKNOWLEDGE THE EXCELLENT SUPPORT OF THE HONORABLE ASSISTANT SECRETARY OF TERRITORIAL AND INTERNATIONAL AFFAIRS, RICHARD T. MONTOYA AND HIS STAFF.

LET ME ASSURE YOU THAT THE GOVERNMENT AND PEOPLE OF AMERICAN SAMOA WILL DO THEIR PART IN SHOULDERING THEIR SHARE OF THE BURDEN, ENSURING ACCOMPLISHMENT OF OUR MUTUAL GOALS OF SELF-GOVERNMENT AND ENHANCING OUR PEOPLES' QUALITY OF LIFE.

AMERICAN SAMOA GOVERNMENT FY 1986 BUDGET
ANALYSIS OF THE PRELIMINARY VERSUS
THE REVISED SUBMISSION

ACTIVITIES	PRELIMINARY	DOI RECOMMENDATION	VARIANCE	NEW REQUEST	SUBMISSION
Basic Operation	$23,946,000	20,776,000 1/	(3,170,300)	3,170,000 2/ 2,781,300 3/	26,727,300 4/
Special Programs	1,000,000	-0-	(1,000,000)	980,000	980,000
Capital Improv. Proj.	11,611,000	3,746,000 5/	(7,865,000)	6,076,000 6/	9,822,000 7/
TOTALS	$36,557,000	$24,522,000	(12,035,300)	$13,007,300	$37,529,300

FOOTNOTES:

1/ Recommended amount after DOI and OMB Cuts

2/ Represents total amounts Cut by DOI & OMB

3/ Reflects additional requests for

-Marine Railway Employees Reemployment	$ 600,000
-Reclassification for DPS/DMS	700,000
-Pay raise unanticipated costs	1,481,300
TOTAL	$2,781,300

4/ Represents total of 1/, 2/ and 3/

5/ Reflects projects approved by DOI

-Fagatogo Corridor	$ 746,000
-Water Improvements	1,500,000
-Administration Building	1,500,000
TOTAL	$3,746,000

6/ Represents additional ASG Requests for CIPs

-Health Equipment	$ 976,000
-Manu'a Surface Transportation	1,500,000
-Additional Classrooms	2,000,000
-Gymnasiums	1,600,000
TOTAL	$6,076,000

7/ Represents totals of 5/ and 6/

AMERICAN SAMOA GOVERNMENT
FISCAL YEAR 1986 BUDGET
COMPOSITION OF FINAL BUDGET CHANGES

ACTIVITIES	PRELIMINARY		REVISED		VARIANCE	
	LOCAL	DOI	LOCAL	DOI	LOCAL	DOI
Basic Operation	16,575,725	23,946,000	17,457,725	26,727,300	+882,000 2/	+2,781,300 3/
Special Programs	1,210,000	1,000,000	910,000	980,000	-300,000	- 20,000
Capital Improvement Projects	2,195,000	11,611,000	1,910,000	9,822,000 4/	-285,000	-1,789,000
TOTALS	19,980,725	36,557,000 1/	20,277,725	37,529,300	+297,000	+ 972,300

FOOTNOTES:

1/ Represents total of our DOI submission for FY 1986.

2/ Represent the Increases for -

-Dept. of Education Increase	$ 589,500
-Governor's Office	292,500
TOTAL LOCAL INCREASE	882,000

3/ Represents the Total of the following items -

-Marine Railway Reemployment	$ 600,000
-Reclassification for Departments of Public Safety and Health	700,000
-Unanticipated Cost of Pay Raise	1,481,300
TOTAL	$2,781,300

4/ Reflects the Total of CIPs approved by DOI plus the Governor's additional requests:

DOI Approved CIPs	
Fagatogo Corridor Road	746,000
Water Improvement	1,500,000
Administration Building	1,500,000
TOTAL	$3,746,000
Governor's Requests	
Health Equipment	976,000
Manu'a Transport	1,500,000
Additional Classrooms	2,000,000
Gymnasiums	1,600,000
TOTAL	$6,076,000

AMERICAN SAMOA GOVERNMENT FY 1986 BUDGET
COMPARATIVE ANALYSIS OF DOI AND OMB
ACTIONS ON ASG FY 1986 BUDGET

I. BASIC OPERATIONS

Activities:	Original Request	DOI Action	OMB Action	Recommended Budget
Dept. of Education	6,360,000	(565,000)	(100,000)	5,695,000
Community College	1,250,000	(95,000)	-0-	1,155,000
Dept. of Health	6,985,000	(1,358,000)	(100,000)	5,527,000
Port Administration	792,000	(6,000)	-0-	786,000
Public Safety	1,212,000	(158,000)	-0-	1,054,000
Public Works	5,976,000	(303,000)	(124,000)	5,549,000
Attorney General	662,000	(152,000)	-0-	510,000
High Court	709,000	(109,000)	(100,000)	500,000
TOTAL	$23,946,000	(2,746,000)	(424,000)	20,776,000

II. CAPITAL IMPROVEMENT PROJECTS:

Projects:	Original Request	DOI Action	OMB Action	Recommended Budget
New Dock Backup Area	720,000	(720,000)	-0-	-0-
Hospital Equipment	976,000	(976,000)	-0-	-0-
Reroofing School Building	495,000	(495,000)	-0-	-0-
Equip. Voc. Education	372,000	(372,000)	-0-	-0-
Siliaga School Relocation	693,000	(693,000)	-0-	-0-
Sewer System Upkeep & Imp.	525,000	(525,000)	-0-	-0-
Road Improvement & Overlay	3,270,000	(3,270,000)	-0-	-0-
Samoana High School Phase II	900,000	(900,000)	-0-	-0-
Fagatogo Corridor	1,248,000	(502,000)	-0-	746,000
Tafuna Industrial Park	2,080,000	(2,080,000)	-0-	-0-
Tafuna & Leone Water Tanks	332,000	(332,000)	-0-	-0-
Administration Building	-0-	1,500,000	-0-	1,500,000
Aua to Aumi Water System	-0-	1,500,000	-0-	1,500,000
TOTAL	$11,611,000	(7,865,000)	-0-	3,746,000

III. SPECIAL PROGRAMS:

Project:				
Mortgage Financing	1,000,000	(1,000,000)	-0-	-0-
TOTAL DOI REQUEST	$36,557,000	($11,611,000)	(424,000)	$24,522,000

Impact of Inflation on DOI Funding

Year	Approved For Operations	Inflation Factors 5%	Variance	7%	Variance	10%	Variance
1978	16,252						
1979	16,056	17,065	(1,009)	17,390	(1,334)	17,877	(1,821)
1980	17,309	17,918	(609)	18,607	(1,298)	19,665	(2,356)
1981	17,600	18,814	(1,214)	19,909	(2,309)	21,632	(4,032)
1982	17,664	19,755	(2,091)	21,303	(3,639)	23,795	(6,131)
1983	19,403	20,743	(1,340)	22,794	(3,391)	26,175	(6,772)
1984	20,400	21,780	(1,380)	24,357	(3,957)	28,793	(8,393)
1985	20,776	22,869	(2,093)	26,062	(5,286)	31,793	(11,017)
1986	20,776 1/	24,012	(3,236)	27,886	(7,110)	34,972	(14,196)
FY 1986 Operational Budget Deficient		-14%		-26%		-59%	

Impact on DOI Funding Based on Actual Inflation Factors

Year	Approved For Operations	American Samoa's Consumer Price Index	Projected Budget	Deficiency
1978	16,252 2/	-0-	-0-	-0-
1979	16,056	17.6%	19,112	- 3,056
1980	17,309	16.9%	22,342	- 5,033
1981	17,600	8.3%	24,196	- 6,596
1982	17,664	6.0%	25,648	- 7,984
1983	19,403	7.3%	27,520	- 8,117
1984	20,400	6.8%	29,391	- 8,991
1985	20,776	6.3% 3/	31,243	-10,843
1986	20,776	5.8% 3/	33,055	-12,279

Footnotes:

1/ DOI recommended amount for FY 86 Operations

2/ Used as the base for these calculations

3/ Projected CPI increases per Development Planning Office.

DEPARTMENT OF INTERIOR FUNDS AUTHORIZED FOR AMERICAN SAMOA

YEAR	OPERATIONS	SPECIAL	CIP	TOTAL
1978	16,252,000	-0-	4,353,000	20,605,000
1979	16,056,000	2,100,000	3,365,000	21,521,000
1980	17,309,000	-0-	-0-	17,309,000
1981	17,600,000	500,000	7,650,000	25,750,000
1982	17,664,000	384,000	7,099,000	25,147,000
1983	19,403,000	500,000	3,937,000	23,840,000 1/
1984	20,400,000	-0-	5,000,000	25,400,000
1985	20,776,000	980,000	5,069,000	26,825,000
1986	20,776,000	-0-	3,746,000	24,522,000 2/
Total	166,236,000	4,464,000	40,219,000	210,919,000
Percentages	79%	2%	19%	100%

Footnotes:

1/ Excludes $7.1 million special supplemental appropriations for FY 1983.

2/ Represents the amout included in the President's Budget for American Samoa and reflects 49% reduction from the previous year.

ADMINISTRATION POLICY POSITIONS:

FAILURE OF PAST ADMINISTRATIONS TO PROMULGATE POLICIES TO PROVIDE THE FRAMEWORK FOR OVERALL GOVERNMENT PROGRAMS HAS CREATED GOVERNMENT INEFFICIENCY, COUNTER-PRODUCTIVE STRATEGIES, AND, CONSTANT FRUSTRATION BY THE BUSINESS COMMUNITY UNCERTAIN OF THE GOVERNMENTS POSITION ON DEVELOPMENT ISSUES.

IT IS THE BASIC AIM OF THIS ADMINISTRATION TO CREATE A CONDUSIVE CLIMATE THAT WILL FOSTER ECONOMIC PROGRESS AND ENSURE THE ENHANCEMENT OF OUR PEOPLE'S QUALITY OF LIFE. DEVELOPMENT AND PROMULGATION OF THE ADMINISTRATION'S POLICIES ON FACTORS IMPACTING THE SOCIAL, ECONOMIC, AND POLITICAL STATUS OF THE TERRITORY IS THE MOST LOGICAL AND PRUDENT STEP IN COMMENCING THIS PROCESS.

GOVERNMENTAL AGENCIES SHALL UTILIZE THIS POLICY FRAMEWORK TO DEVELOP AGENCY PROGRAMS FOR THE NEXT FOUR YEARS. POLICIES SHALL BE REVIEWED PERIODICALLY TO ENSURE THEIR CONTINUED VALIDITY GIVEN THE SOCIAL, ECONOMIC, AND POLITICAL CONDITIONS AT A POINT IN TIME.

IN DEVELOPING THESE POLICY POSITIONS, ASSUMPTIONS ARE FORMULATED BASED ON THE EXISTING ENVIRONMENT SURROUNDING A SPECIFIC DEVELOPMENT ISSUE.

EDUCATION:

THE ADMINISTRATION SUPPORTS THE ESTABLISHMENT OF AN EDUCATIONAL SYSTEM THAT IS SENSITIVE TO THE NEEDS OF EVERY STUDENT TO ENSURE THAT THEIR INDIVIDUAL ASPIRATIONS ARE ACHIEVED.

THIS SYSTEM MUST ALSO BE SENSITIVE TO THE HUMAN RESOURCES NEEDS OF THE TERRITORY TO GUARANTEE THAT SKILLS ARE AVAILABLE TO ACCOMMODATE ITS DEVELOPMENT PROGRAMS.

THE ADMINISTRATION RECOGNIZES THE IMPORTANT ROLE EDUCATION PLAYS IN FOSTERING CULTURAL PRESERVATION, HENCE, IT SHALL ENCOURAGE INCORPORATION OF CULTURAL ISSUES AS AN INTEGRAL PART OF ITS EDUCATIONAL SYSTEM.

HEALTH:

THE ADMINISTRATION WILL STRIVE TO IMPROVE SELF-SUFFICIENCY IN OUR HEALTH CARE SERVICES TO THE MAXIMUM EXTENT FEASIBLE. TO ENHANCE THE QUALITY OF LIFE FOR THE RESIDENTS TO MANU"A, HEALTH CARE DELIVERY SYSTEM SHAL BE IMPROVED TO THE MAXIMUM EXTENT FEASIBLE.

TO EASE THE PRESSURE ON THE LBJ MEDICAL FACILITIES, HEALTH CARE SERVICES AT THE DISTRICT LEVEL SHALL BE IMPROVED TO THE MAXIMUM EXTENT FEASIBLE.

RECOGNIZING THE MODERN PRESSUES ON OUR MENTAL WELL-BEING, IMPROVEMENT OF OUR CAPACITY TO ADDRESS THIS NEED IS IN ORDER.

ECONOMIC DEVELOPMENT:

IN RECOGNITION OF THE INHERENT ECONOMIC PROBLEMS ASSOCIATED WITH SOLE DEPENDENCE ON THE TUNA CANNING PLANTS, THE ADMINISTRATION WILL ACCELERATE ITS EFFORTS IN THE IMPLEMENTATION OF ITS ECONOMIC DIVERSIFICATION PROGRAM.

FISHERIES:

THE ADMINISTRATION PLEDGES SUPPORT TO ENSURE CONTINUED PROFITABILITY OF THE CANNERIES.

PROGRAMS SHALL BE DEVELOPED TO CAPITALIZE ON THE ECONOMIC POTENTIALS INHERENT IN THE EXISTENCE OF THE CANNERIES IN THE TERRITORY. AS PART OF THESE PROGRAMS, ASSISTANCE SHALL BE PROVIDED TO IMPROVE THE CAPACITY OF OUR LOCAL FISHING FLEET TO HARVEST THESE BENEFITS.

IT IS LOGICAL FOR THE TERRITORY TO INVESTIGATE THE POTENTIAL OF AQUACULTURE DEVELOPMENT BEING THAT IT IS SURROUNDED BY WATER.

TO ENSURE CONTINUED GROWTH FOR OUR LOCAL FISHING FLEET, ASSISTANCE SHALL BE GIVEN TO ENSURE CREATION OF A CONDUSIVE CLIMATE FOSTERING AND NURTURING ITS GROWTH.

TOURISM:

THE ADMINISTRATION RECOGNIZES THAT TOURISM HOLDS THE GREATEST POTENTIAL FOR ITS DIVERSIFICATION PROGRAM, THUS IT AIMS TO PROVIDE MAXIMUM SUPPORT TO ENSURE REALIZATION OF THESE INHERENT ECONOMIC BENEFITS.

TOURISM DEVELOPMENT SHALL BE PURSUED IN A MANNER THAT WOULD ENCOURAGE CULTURAL PRESERVATION AND SIMULTANEOUSLY ACCRUE MAXIMUM BENEFITS TO THE INDIGENOUS POPULATION.

AGRICULTURE:

THE ADMINISTRATION WILL AGRESSIVELY PURSUE A POLICY ADVANCING TOTAL IMPORT SUBSTITUTION IN THE BASIC AGRICULTURAL CROPS. IT IS MINDFUL, HOWEVER, THAT THE EXISTING ECONOMIES OF SCALE PRECLUDES EFFICIENT PRODUCTION OF THESE CROPS. HENCE, IT WILL

EXERCISE CAUTION, LEST IN ITS QUEST TO ATTAIN THIS GOAL, THE COST OF THE LOCAL MARKET BASKET IS UNECONOMICALLY RAISED. EFFORTS SHALL ALSO BE INVESTED IN EXPANDING LIVE STOCK FARMING TO MINIMIZE OUR DEPENDENCE ON IMPORTS.

PRIVATIZATION:

WHILE PRIVATIZATION OFFERS AN ALTERNATIVE TO THE TERRITORY'S ECONOMIC DIVERSIFICATION PROGRAM, THE ADMINISTRATION SHALL PROCEED WITH CAUTION IN ITS IMPLEMENTATION. IN ADVANCING THIS CONCEPT THE FOLLOWING CRITERIA MUST BE MET FOR THE GOVERNMENT TO CONSIDER DIVESTING A PARTICULAR FUNCTION.

1. SERVICE TO THE PEOPLE OF AMERICAN SAMOA WILL BE IMPROVED.
2. THE COST OF PROVIDING THIS SERVICE IS CHEAPER IN PRIVATE HANDS.
3. IMPACTED GOVERNMENT EMPLOYEES ARE GUARANTEED JOB SECURITY.
4. MAXIMUM ECONOMIC BENEFITS OF THE PRIVATIZATION ACTIVITY ACCRUE TO THE PEOPLE OF AMERICAN SAMOA.
5. PARTICIPATION OF LOCAL COMPANIES IS ENCOURAGED THROUGH ESTABLISHING JOINT-VENTURES WITH FOREIGN COUNTERPARTS.

INDUSTRIAL DEVELOPMENT:

THE ADMINISTRATION SHALL AGRESSIVELY PURSUE FOREIGN INVESTMENT IN THE AREAS OF LIGHT NON-POLLUTANT MANUFACTURING INDUSTRIES TO CREATE EXPORT PRODUCTS AND SIMULTANEOUSLY ACCOMMODATE LOCAL CONSUMPTION.

WHILE THE ADMINISTRATION PROMULGATES AN OPEN DOOR POLICY ON ENTRY OF FOREIGN INVESTMENT, IT SHALL, TO THE MAXIMUM EXTENT FEASIBLE, ENCOURAGE LOCAL PARTICIPATION. IT IS MOST DESIRABLE FOR THE ADMINISTRATION FOR THE LOCAL ENTERPRENUERS TO TAKE THE INITIATIVES IN ESTABLISHING MANUFACTURING CONCERNS, HOWEVER, IT

RECOGNIZES THAT THE ABILITY OF OUR LOCAL BUSINESSES TO ENGAGE IN SUCH ACTIVITIES IS CONTRAINED BY THE ABSENCE OF VENTURE CAPITAL AND TECHNICAL KNOW HOW TO ORGANIZE SUCH ACTIVITIES.

LOCAL BUSINESS:

IT SHALL BE THE AIM OF THE ADMINISTRATION TO EXPAND AND STRENGTHEN THE PRIVATE SECTOR SO IT CAN ASSUME THE LEADING ROLE IN THE ECONOMIC DEVELOPMENT AFFAIRS OF THE TERRITORY.

THIS PROCESS SHALL INCLUDE BUT NOT LIMITED TO MAKING LAND AND VENTURE CAPITAL AVAILABLE FOR ACCESS BY THE BUSINESS COMMUNITY TO EXPAND THEIR EXISTING OR ENGAGE IN NEW BUSINESS ACTIVITIES.

IT IS VITAL FOR THE AMERICAN SAMOA GOVERNMENT TO CREATE A CONDUSIVE BUSINESS CLIMATE THAT WOULD CREATE BUSINESS CONFIDENCE AND THUS ENCOURAGE INVESTMENT.

REGIONAL DEVELOPMENT:

RECOGNITION OF OUR ECONOMIC LIMITATIONS AND THE FACT THAT AMERICAN SAMOA IS AN INTEGRAL PART OF THE PACIFIC COMMUNITY, IT IS PRUDENT TO FOSTER CLOSER RELATIONSHIP WITH OUR ISLAND NEIGHBORS TO ORGANIZE JOINT ECONOMIC PROJECTS THAT WOULD GENERATE MUTUAL ECONOMIC BENEFITS FOR BOTH PARTIES.

ENFORCEMENT OF THE 200 MILE ECONOMIC ZONE NECESSITATES MAINTENANCE AND NURTURING COOPERATION WITH THE ISLAND COUNTRIES OF THE PACIFIC.

BEING THE ONLY UNITED STATES POSSESSION SOUTH OF THE EQUATOR AND THE RISING OVERTURES BY COMMUNIST BLOCK COUNTRIES IN THE PACIFIC, AMERICAN SAMOA FOR SECURITY REASONS MUST CULTIVATE ECONOMIC OR DIPLOMATIC RELATIONSHIPS WITH OUR ISLAND NEIGHBORS.

INFRASTRUCTURAL DEVELOPMENT:

THE BASIC PREREQUISITE TO THE SUCCESSFUL IMPLEMENTATION OF ANY ECONOMIC DEVELOPMENT PROGRAM, AND ENHANCING OUR PEOPLE'S QUALITY OF LIFE, IS THE EXISTENCE OF AN INFRASTRUCTURAL SYSTEM THAT IS RELIABLE AND COST EFFECTIVE. HENCE, THE ADMINISTRATION SHALL

COMMIT THE NECESSARY RESOURCES TO ENSURE CONTINUED MAINTENANCE OF THE SYSTEMS RELIABILITY AND EFFICIENCY.

MANPOWER DEVELOPMENT:

EFFORTS SHALL BE INVESTED TO IMPROVE EMPLOYEE MORALE AND PRODUCTIVITY.

IT IS CRITICAL, TO CURB THE INFLUX OF ALIEN LABOR, TO PREPARE AN OVERALL MANPOWER DEVELOPMENT PLAN INCORPORATING IDENTIFICATION OF SKILL NEEDS AND THE ESTABLISHMENT OF APPROPRIATE TRAINING PROGRAMS TO MEET THESE NEEDS.

THE ADMINISTRATION SHALL CREATE INCENTIVES ENCOURAGING THE CREATION OF A PUBLIC-PRIVATE PARTNERSHIP WHOSE FUNCTION IS THE ESTABLISHMENT OF THE NECESSARY TRAINING PROGRAMS TO GUARANTEE EMPLOYMENT FOR AMERICAN SAMOANS IN THE PUBLIC OR PRIVATE SECTORS.

HOUSING:

TO ACCOMMODATE THE RISING DEMAND FOR NEW HOMES, EFFORTS SHALL BE DEDICATED TO MAKING MORTGAGE FUNDS AVAILABLE.

THE GOVERNMENT SHALL CREATE THE NECESSARY LAWS TO SATISFY FEDERAL REGULATIONS THEREBY QUALIFYING AMERICAN SAMOA TO THE AVAILABLE FEDERAL HOUSING PROGRAMS.

TRANSPORTATION:

THE ADMINISTRATION RECOGNIZES THAT AN ADEQUATE TRANSPORTATION NETWORK IS VITAL TO THE LIVELIHOOD OF THE TERRITORY, THUS, IT SHALL DILIGENTLY INVESTIGATE WAYS TO GUARANTEE IMPROVEMENT OF INTER-ISLAND AND INTERNATIONAL AIR AND SURFACE TRANSPORTATION.

YOUTH:

PROGRAMS SHALL BE IMPLEMENTED PROMOTING YOUTH DEVELOPMENT ESPECIALLY ENHANCING THEIR SELF-CONFIDENCE AND PRIDE BY PREPARING THEM TO BECOME MEANINGFUL CONTRIBUTORS TO OUR SOCIETY.

THE ADMINISTRATION VIEWS THIS AS A CRITICAL ISSUE, HENCE APPROPRIATE COMMITTMENT OF FUNDS REFLECTIVE OF THIS CONCERN SHALL BE MADE.

SENIOR CITIZEN:

MEETING THE NEEDS OF OUR SENIOR CITIZENS IS A TRAIT INHERENT AND BASIC TO OUR CULTURE, THUS, THE ADMINISTRATION SHALL SEEK WAYS TO IMPROVE ITS SERVICES TO THE ELDERLIES. IT SHALL NOT ENGAGE OR ADOPT SERVICES THAT WOULD SERVE TO DEGRADE ONE'S DIGNITY TO GRAVITATE TO DILAPITATE OUR CULTURAL FIBER.

RECREATION:

IT IS CRUCIAL FOR THE ADMINISTRATION TO ESTABLISH RECREATIONAL PROGRAMS AND FACILITIES TO ACCOMMODATE THE LEISURE NEEDS OF ITS CITIZENS.

RECREATIONAL PROGRAMS SHOULD BE FORMULATED BASED ON CLIMATIC CONDITIONS AND ADVANCING THE POTENTIAL FOR OUR YOUNG GENERATION TO ACCESS SPORTS ACTIVITIES THAT WOULD PROVIDE AVENUES FOR EDUCATIONAL OR ECONOMIC OPPORTUNITIES.

LAW ENFORCEMENT:

ENFORCEMENT OF EXISTING LAWS, PROTECTING THE RIGHTS OF OUR CITIZENS AND CREATING A HEALTHY ENVIRONMENT TO FOSTER ENHANCEMENT OF OUR QUALITY OF LIFE, HAS BEEN BASED IN THE PAST, HENCE THE ADMINISTRATION SHALL DEDICATE ITS EFFORTS TO AGGRESSIVELY ENFORCE ALL OF THE EXISTING LAWS OF THE TERRITORY.

MANAGEMENT:

FISCAL ACCOUNTABILITY IS CRUCIAL TO THIS ADMINISTRATION, THUS, IT AIMS TO INSTITUTE MANAGEMENT PROCEDURES TO ENSURE THAT IT CAN ACCOUNT FOR EVERY PENNY THAT IT SPENDS.

THESE PROCEDURES WILL DEFINE A CLEAR COORDINATIVE PROCESS FOR INTERACTION AMONG GOVERNMENT AGENCIES RESPONSIBLE FOR THE FISCAL AFFAIRS OF THE TERRITORY.

SPECIAL FOCUS WILL BE PLACED ON IMPROVING THE PRESENT FINANCIAL INFORMATIONAL SYSTEM TO ENSURE THAT TIMELY AND ACCURATE INFORMATION IS AVAILABLE AT ANY POINT IN TIME.

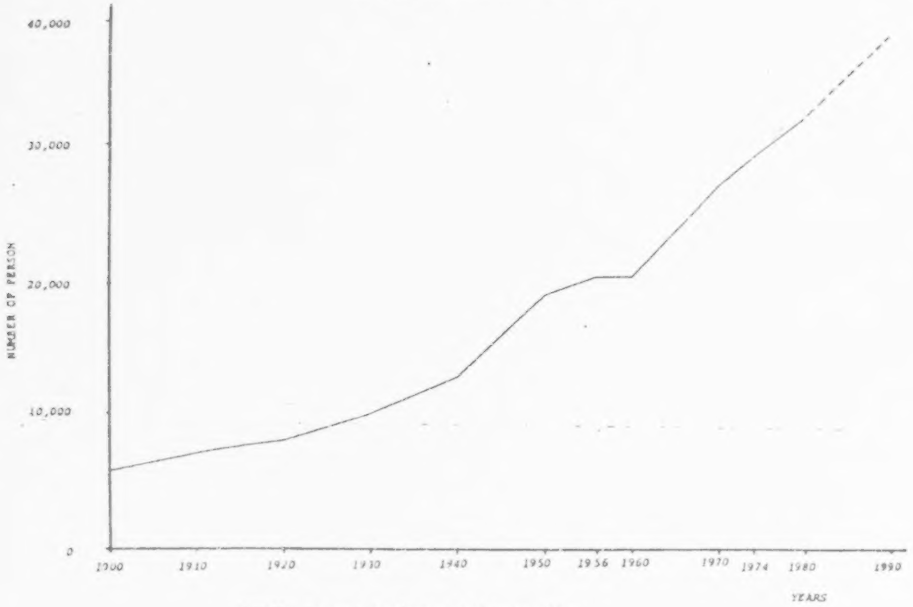
FISCAL ACCOUNTABILITY ON THE DEPARTMENT OF INTERIOR AND OTHER FEDERAL GRANTS HAS BEEN LACKING IN THE PAST, HENCE SPECIAL

ATTENTION SHALL BE PROVIDED BY THIS ADMINISTRATION TO ENSURE CONFIDENCE BY THE FEDERAL AGENCIES THAT AMERICAN SAMOA HAS THE MANAGEMENT CAPACITY TO PROPERLY ADMINISTER THESE PROGRAMS.

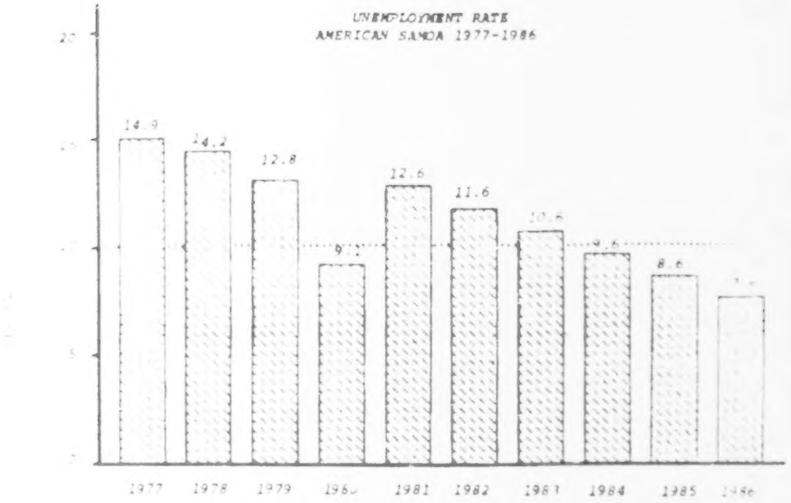
WITH THE ADVENT OF THE PRIVATIZATION PROGRAM, THERE WILL BE NEED FOR THE AMERICAN SAMOA GOVERNMENT TO CONTINUALLY REVIEW AND RESTRUCTURE ITS ORGANIZATIONAL SET-UP TO ENSURE OVERALL GOVERNMENT EFFICIENCY AND PRODUCTIVITY.

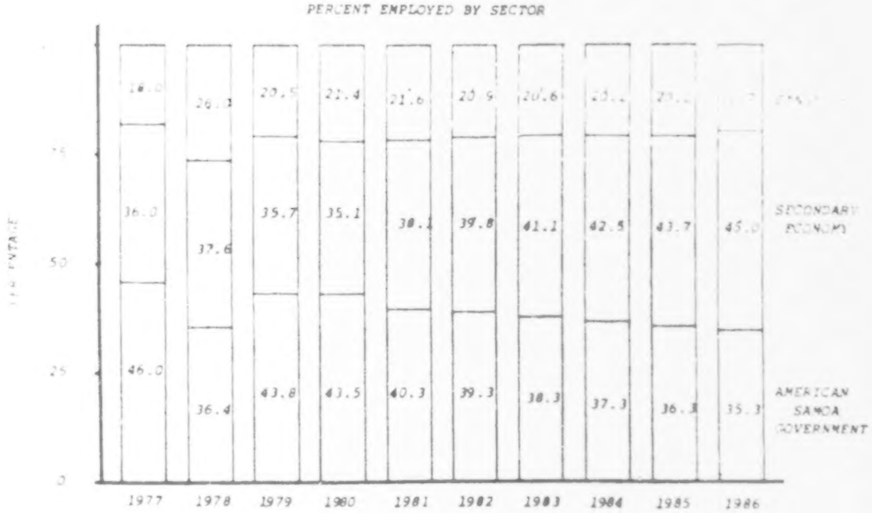
IT IS THE ASPIRATION OF THIS ADMINISTRATION TO CULTIVATE AN ARMS-LENGTH WORKING RELATIONSHIP WITH THE DEPARTMENT OF THE INTERIOR AND OUR REPRESENTATIVE TO CONGRESS.

AMERICAN SAMOA POPULATION, CENSUSES SINCE 1900
AND ESTIMATED POPULATION 1981-1990



SOURCE: Economic Development & Planning Office





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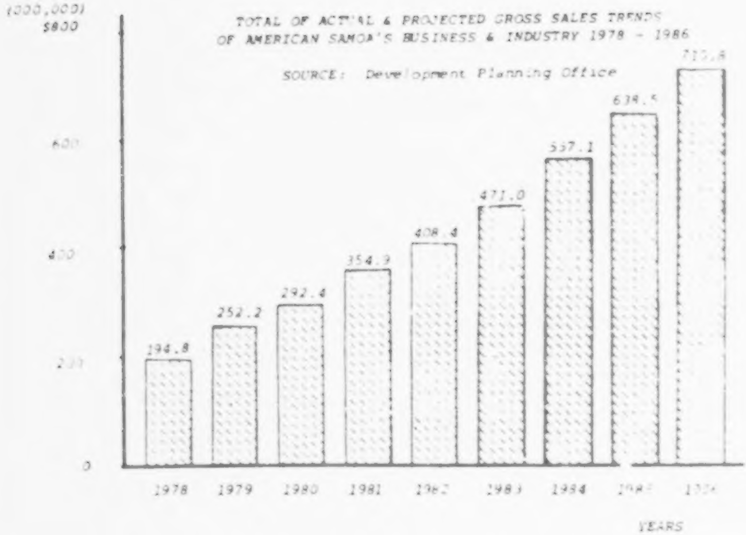
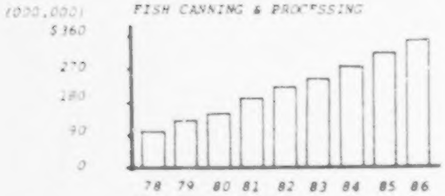
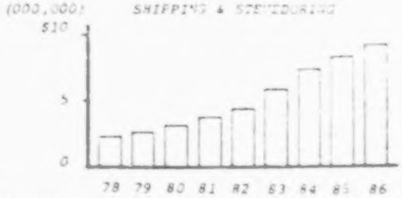
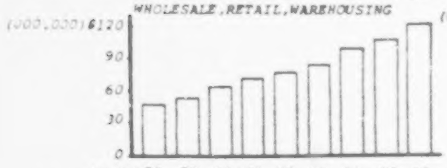
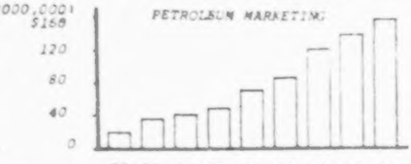
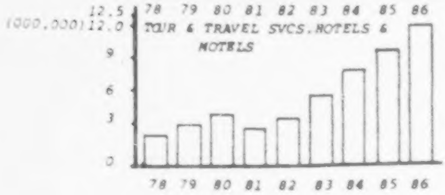

TOTAL OF ACTUAL & PROJECTED GROSS SALES TRENDS
OF AMERICAN SAMOA'S BUSINESS & INDUSTRY 1978 - 1986
SOURCE: Development Planning Office
(000,000)
$800
600
400
200
0
194.8
252.2
292.4
354.9
408.4
471.0
557.1
638.5
715.8
1978
1979
1980
1981
1982
1983
1984
1985
1986
YEARS

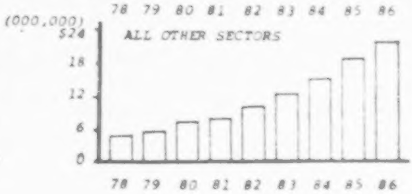

FISH CANNING & PROCESSING
(000,000)
$360
270
180
90
0
78 79 80 81 82 83 84 85 86


SHIPPING & STEVEDORING
(000,000)
$10
5
0
78 79 80 81 82 83 84 85 86

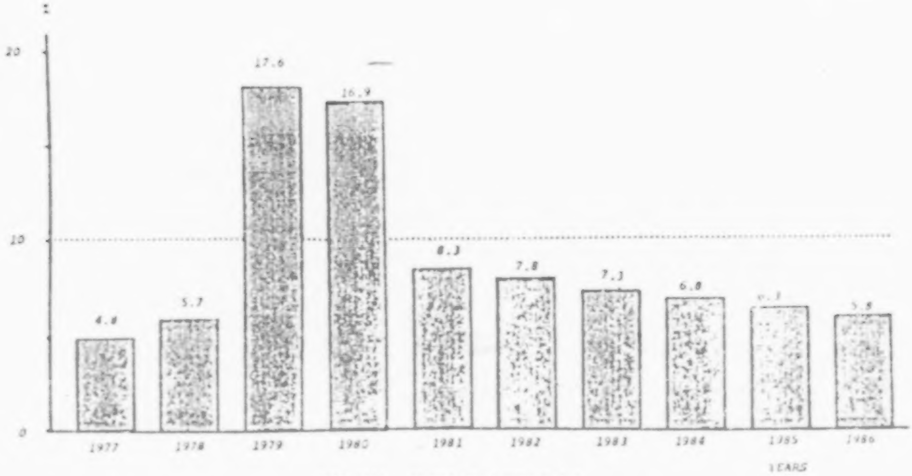

WHOLESALE,RETAIL,WAREHOUSING
(000,000)$120
90
60
30
0
78 79 80 81 82 83 84 85 86


PETROLEUM MARKETING
(000,000)
$160
120
80
40
0
78 79 80 81 82 83 84 85 86


TOUR & TRAVEL SVCS.HOTELS & MOTELS
(000,000)12.0
12.5
9
6
3
0
78 79 80 81 82 83 84 85 86


ALL OTHER SECTORS
(000,000)
$24
18
12
6
0
78 79 80 81 82 83 84 85 86

INFLATION RATE
AMERICAN SAMOA 1977-1986



1977-1981 ACTUAL RATE FROM C.P.I.
1982-1986 ESTIMATE 0.5% LOWER EACH YEAR

SOURCE: Economic Development & Planning Office

Statement of Letuli Toloa

MR. CHAIRMAN, HONORABLE MEMBERS OF THE COMMITTEE, I AM PLEASED TO HAVE THE OPPORTUNITY TO SPEAK BEFORE YOU REGARDING THE FISCAL YEAR 1986 BUDGET FOR AMERICAN SAMOA. AS A LEADER IN THE TERRITORY'S LEGISLATURE, I AM FULLY AWARE OF YOUR NEED FOR FULL DETAILS AND COMPLETE INFORMATION CONCERNING OUR BUDGET NEEDS. THROUGHOUT THESE HEARINGS, I WILL MAKE EVERY EFFORT TO SEE THAT YOU ARE FULLY INFORMED.

DESPITE ITS SMALL LAND AREA AND POPULATION, AMERICAN SAMOA HAS MANY LARGE DEVELOPMENT PLANS FOR ITSELF, ESPECIALLY IN THE FIELDS OF EDUCATION, HEALTH AND HOUSING. THE GROWING NUMBER OF SCHOOL AGE CHILDREN, HAS PUT GREAT PRESSURE ON THE EXISTING SCHOOL FACILITIES. OVERCROWDING AND OUTDATED CLASSROOMS SERIOUSLY UNDERMINE OUR EFFORTS TO PROVIDE A MODERN EDUCATION FOR THE YOUTH OF AMERICAN SAMOA. WE BADLY NEED TO IMPROVE THIS SITUATION QUICKLY TO LIMIT THE LONG TERM EFFORTS OF THESE CONDITIONS.

ANOTHER WELL DOCUMENTED PROBLEM IS THE CURRENT STATE OF OUR MEDICAL AND HEALTH FACILITIES. THOUSANDS OF DOLLARS CAN BE SAVED ALMOST IMMEDIATELY IF FEWER HOSPITAL PATIENTS ARE REFERRED OFF-ISLAND. A LOWER REFERRAL RATE CAN BE ACCOMPLISHED ONLY BY IMPROVING THE USE OF MODERN MEDICAL TECHNOLOGY AND BY MAINTAINING THE STANDARDS OF MEDICAL CARE NOW PROVIDED. THE BUDGET REQUEST FOR MEDICAL EQUIPMENT WAS ENTIRELY CUT BY THE DEPARTMENT OF THE INTERIOR. IT IS MY BELIEF THAT A PUBLIC NEED AS BASIC AS MEDICAL CARE FOR THE ISLAND RESIDENTS SHOULD BE THOUGHTFULLY RECONSIDERED BY THIS COMMITTEE. SOME WELL SPENT DOLLARS TODAY WILL SAVE MANY THOUSANDS TOMORROW.

AT LAST COUNT, OVER 2,000 APPLICATIONS FOR MORTGAGE FINANCING WERE PENDING AT THE DEVELOPMENT BANK OF AMERICAN SAMOA. HOUSING IN AMERICAN SAMOA IS FAR LESS EXPENSIVE THAN ANYWHERE IN THE MAINLAND U.S., BUT STILL THERE IS A TREMENDOUS NEED FOR ADDITIONAL FUNDING JUST TO BREAK UP THE HUGE BACKLOG OF FINANCING APPLICATIONS, MUCH LESS PROVIDE FRESH HOUSING EXPANSION. WITH REGARD TO THESE FUNDS, IT IS IMPORTANT TO RECALL THAT MORTGAGE FINANCING CAN EVOLVE INTO A PERPETUAL, SELF-SUFFICIENT OPERATION AS LOAN PAYMENTS ARE MADE AND THEN RELOANED TO OTHERS. ALL THAT IS NEEDED IS THE INITIAL BOOST FROM OTHERWISE UNOBLIGATED FUNDS.

OF COURSE, MANY OTHER PROJECTS FOR THE ISLAND DESERVE PROMPT, SERIOUS ATTENTION. BUT THE BASICS OF AMERICAN LIFE MUST INCLUDE NO LESS THAN HEALTHY, WELL EDUCATED CITIZENS WITH PLACES TO CALL THEIR OWN.

I THANK YOU MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE FOR YOUR ATTENTION AND CONSIDERATION. I LOOK FORWARD TO MORE DISCUSSIONS REGARDING SPECIFIC ISSUES OF YOUR CONCERN.

STATEMENT OF TUIAFONO P. MATA'UTIA

MR. CHAIRMAN AND HONORABLE MEMBERS OF THE COMMITTEE. ON BEHALF OF THE HOUSE OF REPRESENTATIVES AND THE PEOPLE OF AMERICAN SAMOA. I SINCERELY THANK YOU, THE MEMBERS OF CONGRESS, THE PRESIDENT AND THE PEOPLE OF THE UNITED STATES OF AMERICA FOR YOUR LOVE AND GRACIOUS SUPPORT IN SHARING YOUR BOUNTEOUS BLESSINGS TO HELP IN THE DEVELOPMENT OF OUR UNDER-DEVELOPED-UNINCORPORATED TERRITORY. WE ARE FOREVER GRATEFUL TO YOU, AND WE ARE PROUD TO BE A PART OF THE GREATEST NATION IN THE WORLD! THE UNITED STATES OF AMERICA!

JUST AS THE CONGRESS, THE PRESIDENT, AND THE PEOPLE OF THE UNITED STATES WORK TOGETHER TO KEEP AMERICA STRONG, SAFE, PROSPEROUS AND BEAUTIFUL, LIKEWISE THE LEADERS AND PEOPLE OF AMERICAN SAMOA UNITE IN MAKING AND KEEPING SAMOA THE PARADISE OF THE SOUTH PACIFIC. YOU CAN BE PROUD OF AMERICAN SAMOA AS WE ARE OF THE UNITED STATES. WE INVITE YOU TO VISIT US AND ENJOY THE NATURAL BEAUTY OF OUR ISLANDS, AND OUR PEOPLE'S HOSPITALITY AUTHENTICATED BY OUR CUSTOMS, CULTURES AND TRADITIONS.

I FEEL VERY PRIVILEGED AND HONORED TO APPEAR BEFORE YOUR COMMITTEE TO TESTIFY IN SUPPORT OF OUR TERRITORY'S BUDGET FOR FISCAL YEAR 1986. GOVERNOR LUTALI HAS PRESENTED OUR BUDGET AND A SPECIAL REQUEST FOR THE RESTORATION OF THE PROGRAMS REDUCED OR COMPLETELY ELIMINATED BY THE DEPARTMENT OF INTERIOR OR THE OFFICE OF MANAGEMENT AND BUDGET. THESE PROGRAMS ARE VITAL AND ESSENTIAL TO THE BASIC NEEDS THAT A GOVERNMENT MUST PROVIDE FOR ITS PEOPLE; AMONG SUCH ARE PUBLIC EDUCATION, PUBLIC HEALTH, PUBLIC WORKS, AND PUBLIC SAFETY. TOTAL REDUCTION IS $3.1 MILLION. OUR BASIC REQUEST FOR CAPITAL IMPROVEMENT PROJECTS FUNDS WAS ALSO DRASTICALLY CHANGED FROM $11.6 MILLION TO $3.7 MILLION, A REDUCTION OF $7.9 MILLION. ON APRIL 15, 1985, THE ELEMENTARY SCHOOL OF ALATAUA II, FOR CHILDREN IN THE VILLAGES OF AMANAVE, FAILOLO, AGUGULU, UTUMEA, NUA, SEETAGA, FAGAMUTU, AFAO, SILI, AND AMALUIA, WAS COMPLETELY COVERED AND DESTROYED BY A LANDSLIDE! THIS SCHOOL IS NOW CLOSED. THERE IS EXISTING A CRITICAL NEED FOR WATER AND SEWER SYSTEMS TO SERVICE SCHOOLS AND FAMILIES ALL AROUND THE TERRITORY. I WISH ALSO TO ADD SUPPORT OF THE GOVERNOR'S

SPECIAL REQUEST FOR FUNDS TO CONSTRUCT GYMNASIUMS FOR THE HIGH SCHOOLS. FOR PURCHASE OF NEEDED HOSPITAL EQUIPMENT, AS WELL AS ASSISTANCE FOR SURFACE TRANSPORTATION BETWEEN PAGO PAGO AND MANU'A ISLANDS. AS YOU CAN SEE, MR. CHAIRMAN, AND DISTINGUISHED MEMBERS OF THE COMMITTEE, THE FUNDS REQUESTED ARE FOR THE BASIC PROGRAMS AND NEEDS OF THE PEOPLE OF AMERICAN SAMOA. AS SPEAKER OF THE HOUSE AND REPRESENTATIVE OF THE PEOPLE AND LEGISLATURE OF AMERICAN SAMOA, I RESPECTFULLY SOLICIT YOUR SUPPORTT OF OUR BUDGET AS PRESENTED BY GOVERNOR A.P. LUTALI.

THE PRIVATIZATION MOVEMENT AS A FACTOR FOR ECONOMIC DEVELOPMENT IS STIRRING SOME ACTIVITY WITH SHORT TERM (HOPEFULL) NEGATIVE IMPACT. I REFER TO THE SEVERAL EMPLOYEES WHO LOST THEIR JOBS FROM THE MARINE RAILWAY, ESPECIALLY THOSE WHO HAVE SERVICE TENURES OF 10 YEARS AND LONGER. TECHNICAL ASSISTANCE IS NEEDED TO PROVIDEE A PLAN AND PROGRAM FOR DISPLACED EMPLOYEES.

FOR YOUR INFORMATION, MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, IT MAY INTEREST YOU TO KNOW THAT EACH YEAR AMERICAN SAMOA CONTRIBUTES TO THE GROSS NATIONAL PRODUCT (U.S. GNP) A TOTAL OF ABOUT $300 MILLION IN GOODS AND TRADE PRODUCTS ALONE. WE WILL CONTINUE TO DEVELOP AND BUILD AMERICAN SAMOA IN ORDER TO STRENGTHEN AND EXPAND THE BORDERS OF THE UNITED STATES OF AMERICA.

IN CONCLUSION, I WANT TO THANK YOU MR. CHAIRMAN AND MEMBERS OF YOUR COMMITTEE FOR YOUR CONTINUOUS SUPPORT OF OUR FINANCIAL NEEDS.

SUMMARY STATEMENT OF GOV. A.P. LUTALI

Governor LUTALI. Mr. Chairman, first of all, I would like to introduce the people I have here with me. On my right is Senator Letuli Toloa. He is the chairman of the budget committee in the Senate. On my far right is the speaker of the house. On my left is my budget officer and his assistant.

First of all, I would like to say, Mr. Chairman, that we come from a very, very beautiful little country. It is called American Samoa. We believe it is just as American as America. We also believe it is a beautiful country. Maybe that is why Robert Louis Stevenson said, "Samoa is one of God's best handiworks."

I have submitted my statement, Mr. Chairman, and I will not take time—I know you are pressed for time, and I will not repeat it. I will merely highlight some of the things we are requesting.

At the outset let me say, Mr. Chairman, why we are asking for these things. I have included in my statement a package of revenue generating measures which our legislature will discuss when we go back.

We believe in doing our share in maintaining our own country. We are grateful to the Federal Government and Congress, but we also want to participate in taking some of the responsibilities ourselves.

We are asking, Mr. Chairman, that the $3.1 million deducted by the administration from our budget be restored for operational purposes.

I am new as Governor. When I came in, there were obligations made by the previous administrations that were not provided for in the budget for 1985 or 1986.

HOSPITAL REQUEST

We are also asking for help in improving our hospital. Our hospital is deteriorating very rapidly, and as a result, our referral system that is sending our patients to Hawaii has grown so fast and has become very, very expensive.

Part of the reason is that our doctors are paid so low, the lowest in the Pacific, and we are not getting the high quality doctors so they can take care of our own medical problems at home.

So we are asking for help in that area, Mr. Chairman.

PRIVATIZATION EFFORTS

We are beginning very aggressively a privatization program. We have just completed privatizing one of our biggest activities. That is the Marine Railway. As a result of that, about 28 people are displaced from their jobs. They will be replaced in other areas, but we are asking for help to continue their employment.

But as we progress in our privatization effort, I am sure this will not happen because now we know how to take care of the employees who may be reduced from these activities.

SCHOOL IMPROVEMENTS

We are also asking, Mr. Chairman, for help in our schools. We have, according to U.N. statistics, one of the highest birth rates in the world, and as a result more and more students are crowding our schools now.

Our schools are very important to us because, some of our best exports are football players and divers like Greg Louganis and others. We like to develop our young people to become good athletes and good citizens of our country.

So we are asking for help in that area. There is not a single high school that has a gym, and our children—I told Mr. Montoya our children play out in the rain. We are also planning to send a team to the Olympic games in Korea in 1988. All this interest in developing our athletic programs is very important.

A gym may be considered a luxury at this point, but we are still asking you for help in that area. If it is not possible to fund all the gyms for all the high schools, six of them, maybe one or two high schools will be a good beginning.

INTER-ISLAND TRANSPORTATION

Our transportation between our islands, Mr. Chairman, is at a standstill. So the people of the Manu'a Islands, which are located about 80 miles from the main city of Pago Pago, cannot get back and forth at this point. They cannot carry their cargoes between the islands. So we are in deep trouble there. They have been calling me by phone every day. They want transportation.

I want this committee to know that we are doing all we can, and during my administration we will come to you only for those things that will be beyond our capability at that moment. We are a proud people. We want to do the best we can, but there are certain areas we cannot do or cannot work on at this particular time.

ADMINISTRATION BUILDING

We are still using Navy buildings left over from Navy days that was 50 years ago. Some of the buildings that we are now using as office buildings are 40 to 50 years old, and I am grateful to Richard Montoya of Interior because they have accepted our request for money to build our administration building, and I would like to ask the committee for help in that area. Perhaps it is time that we walk into an air-conditioned office and better facilities to make our people work a little better.

Let me repeat, sir, we like to work together with the Federal Government. I do not believe our request is unreasonable, and I hope the committee will give fair consideration to our request.

Senator JOHNSTON. Governor, thank you very much. You are a very effective spokesman for your beautiful islands. You make a very good case for the various projects which you mention. We will do the very best we can.

I think you are aware of the budget battles that are going on in the Congress right now. They are very deep, they are very divisive. Things are being cut across the board. Sometimes they are being cut and restored, too.

So within the constraints of that budget, we will do the very best we can for Samoa, keeping in mind the strong case which you have made for that.

I know you have a 4 o'clock plane to catch at Dulles, and so I will withhold my questions and tell you you had better hurry. [Laughter.]

Mr. MATA'UTIA. Mr. Chairman?

Senator JOHNSTON. Yes.

Mr. TOLOA. We want to say a few words in support of the Governor's remarks. As you may know, I and Mr. Speaker are representing the legislature, and their remarks are already on record.

Senator JOHNSTON. Thank you.

CAPITAL IMPROVEMENT PROJECTS

Mr. TOLOA. Now, some of the things that we want to add in addition to the Governor's remarks, that our original submission for capital improvement projects, as the record shows, was originally suggested for $11.6 million.

Now, this has been cut way low, to $3.7 million, which is a reduction of $7.8 million. Now, in this submission we have very important items like road improvement and overlaying, which in our budget was requested at $3.2 million.

Now, we have an ongoing program as far as roads are concerned now, and it looks like this year we haven't received any of the requested budgeted figures mentioned a while ago.

Another thing that we are trying to improve, in line with the privatization, is the development of our industrial park. As mentioned, the Tafuna Industrial Park was requested for $2 million. Now, this is a part of trying to improve the self-sufficiency of the island, and none of those funds have been approved as far as our original submission.

Now, if all these $7.8 million are not going to be accepted, but at least we implore the committee to look into some of these very important items here that we may accelerate the thought of self-sufficiency in the islands.

With that, I want to thank you very much, Mr. Chairman, for the chance to speak up.

Senator JOHNSTON. Thank you, Mr. President.

Mr. Speaker.

Mr. MATA'UTIA. Mr. Chairman, I would like to take advantage of your statement that you pay more attention to the members of the legislature. Thank you very much.

I would like to amplify the comments by our Governor. You have our budget, and I would like to reiterate our needs on additional money to CIP projects, particularly our needs for new classrooms.

In Samoa, we have four elementary schools overcrowded. I visited the high schools in Pamaia Village. There are approximately three to four grades within one room. So you can imagine the situation in there.

Also, our gymnasium. Last year I visited the island of Guam, and I saw their high schools all have gymnasiums, swimming pools. Lucky for those people. And I would presume Puerto Rico has the same thing as well as other territories.

American Samoa high schools do not have those facilities, and I ask, Mr. Chairman and the honorable members of the committee, please consider those particular areas in our budget as a whole.

Thank you very much.

Senator JOHNSTON. Thank you, Mr. Speaker, Mr. President, and Governor. It is always a pleasure to have you with us. I hope you are able to make it to Dulles in time. [Laughter.]

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

STATEMENT OF PEDRO TENORIO, LIEUTENANT GOVERNOR

ACCOMPANIED BY:

SENATOR BENJAMIN T. MANGLONA
CONGRESSMAN GREGORIO C. SABLAN
CONGRESSMAN JUAN T. GUERRERO

PREPARED STATEMENTS

Senator JOHNSTON. Next, we would like to welcome the Lieutenant Governor of the Commonwealth of the Northern Mariana Islands, our friend Mr. Pedro Tenorio.

Before you proceed we will insert all the submitted statements in the record.

[The statements follow:]

Statement of Pedro A. Tenorio

I AM PEDRO A. TENORIO, LT. GOVERNOR OF THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS. ON BEHALF OF THE GOVERNOR, OTHER ELECTED OFFICIALS AND THE PEOPLE OF THE NORTHERN MARIANAS, I EXTEND TO YOU, MR. CHAIRMAN AND MEMBERS OF THIS COMMITTEE, OUR APPRECIATION FOR THE OPPORTUNITY TO PRESENT TESTIMONY ON THE PROPOSED NORTHERN MARIANAS BUDGET FOR FISCAL YEAR 1986. ALSO WITH ME ARE MEMBERS OF OUR LEGISLATURE; SENATOR BENJAMIN T. MANGLONA, CONGRESSMAN GREGORIO C. SABLAN AND CONGRESSMAN JUAN T. GUERRERO.

OUR PEOPLE ARE GRATEFUL TO THE UNITED STATES GOVERNMENT AND TO THE CONGRESS IN PARTICULAR FOR THEIR GENEROUS FINANCIAL AND OTHER SUPPORT IN THE LAST SEVERAL YEARS OF OUR ASSOCIATION WITH THE UNITED STATES UNDER U.S. PUBLIC LAW 94-241.

BEFORE I BEGIN MY TESTIMONY AND JUSTIFICATION OF OUR BUDGET SUBMISSION FOR THE COMING FISCAL YEAR, I WOULD LIKE TO TAKE A MOMENT TO UNDERLINE TWO FEATURES THAT MAKE THIS YEAR'S BUDGET HEARING OF SPECIAL SIGNIFICANCE TO THE PEOPLE OF THE NORTHERN MARIANAS.

WITH THE CLOSE OF FISCAL YEAR 1985, WE WILL HAVE REACHED THE END OF THE FIRST SEVEN YEAR PERIOD OF OUR YOUNG POLITICAL ASSOCIATION WITH THE UNITED STATES. I KNOW OF NO OTHER UNITED STATES TERRITORY OR STATE THAT WAS GIVEN SUCH A COMPRESSED TIMETABLE WITHIN WHICH TO REACH POLITICAL AND ECONOMIC MATURITY. WHEN WE ENTERED INTO POLITICAL UNION WITH THE UNITED STATES AND ADOPTED OUR OWN CONSTITUTION, A MERE SEVEN YEARS AGO, WE TOOK UPON OURSELVES AND OUR CHILDREN AN HISTORIC MISSION: WE TOOK UP BOTH THE OPPORTUNITIES AND THE BURDENS OF SELF GOVERNMENT. EMERGING FROM A LONG PAST WITHOUT THE OPPORTUNITY TO EXERCISE STRONG SELF-GOVERNMENT, WE ARE REQUIRED TO RAPIDLY ESTABLISH AND WISELY ADMINISTER OUR OWN POLITICAL ORGANIZATION. AND WE MUST DO THIS - AND DO IT WELL- IN A WORLD THAT DAILY GROWS SMALLER, MORE COMPLEX, AND INTERDEPENDENT.

TO BE SURE, WE HAVE HAD OUR FRUSTRATIONS AND MADE OUR MISTAKES; BUT DESPITE THIS, WE HAVE MADE DRAMATIC STRIDES SINCE EXECUTION OF THE COVENANT AND THE INAUGURATION OF OUR CONSTITUTIONAL GOVERNMENT SEVEN YEARS AGO. FOR EXAMPLE, PRIOR TO CONSTITUTIONAL GOVERNMENT IN 1977, LOCAL REVENUES COLLECTED AMOUNTED TO ONLY FIVE (5) MILLION DOLLARS ANNUALLY OR ROUGHLY 34% OF OUR TOTAL GOVERNMENT FUNDS. IN THE INTERVENING SEVEN YEARS, WE HAVE INCREASED COLLECTIONS OF LOCAL REVENUES TO ALMOST TWENTY-NINE (29) MILLION DOLLARS OR APPROXIMATELY 66% OF TOTAL GOVERNMENT FUNDS. IN FY 1984, LOCAL REVENUE RESOURCES EXPENDED FOR OPERATIONS EXCEEDED COVENANT OPERATIONS FUNDS FOR THE FIRST TIME IN THE HISTORY OF THE COMMONWEALTH. THIS WAS IN LARGE PART THE RESULT OF THE EXERCISE OF SELF-GOVERNMENT AND ENACTMENT OF PROGRESSIVE LOCAL TAX LAWS UNDER A SCHEME SUITED TO OUR ISLAND ECONOMIC SETTING.

IMPLEMENTATION OF THE "MIRROR IMAGE" INTERNAL REVENUE CODE AS A SYSTEM OF LOCAL TAXATION HAS AT TIMES BEEN A SOURCE OF FRUSTRATION AND MISUNDERSTANDING BETWEEN THE COMMONWEALTH AND THE UNITED STATES. WE HAVE COMPLIED WITH THE CONGRESSIONAL MANDATE ON THIS LONG-STANDING ISSUE, AND WE SINCERELY FEEL THAT IT HAS BEEN SUBSTANTIALLY RESOLVED BY THE ENACTMENT OF PUBLIC LAW 4-24 AND SUBSEQUENT AMENDMENTS, WHICH, EFFECTIVE JANUARY 1, 1985, FULLY IMPLEMENTED THE MIRROR IMAGE INTERNAL REVENUE CODE IN THE COMMONWEALTH AS PROVIDED IN THE COVENANT. WE SHALL CONTINUE TO MONITOR CLOSELY THE FISCAL IMPACT OF INTERNAL REVENUE CODE IMPLEMENTATION AND TO REPORT OUR FINDINGS TO THE CONGRESS. IN THE MEANTIME, WE WILL CONTINUE TO WORK CLOSELY WITH CONGRESSIONAL STAFF TO DEVELOP A SYSTEM OF TAXATION AS MANDATED BY PUBLIC LAW 98-213 WHICH WILL BE BETTER SUITED TO THE REALITIES OF OUR ISLAND ECONOMY. TENTATIVE UNDERSTANDINGS REGARDING PROPOSED ALTERNATE TAX LEGISLATION HAVE BEEN REACHED WITH STAFF MEMBERS OF THE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS AND THE SENATE STAFF OF THE COMMITTEE ON ENERGY AND NATURAL RESOURCES.

IN TERMS OF GENERAL ECONOMIC DEVELOPMENT, OUR TOURIST INDUSTRY CONTINUES TO DISPLAY STEADY AND ENCOURAGING GROWTH. VISITORS TO OUR ISLANDS HAVE INCREASED FROM APPROXIMATELY 91,000 IN 1978 TO A PROJECTED 145,000 THIS YEAR. IN 1978, WE HAD ONLY 476 BUSINESSES IN THE COMMONWEALTH; WE NOW HAVE MORE THAN 1800 BUSINESS FIRMS. IN 1978, HOTEL ROOMS NUMBERED 740; WE CURRENTLY HAVE CLOSE TO 1,000 ROOMS AND ONGOING CONSTRUCTION WILL ADD MORE THAN 700 ADDITIONAL ROOMS WITHIN THE NEXT 18-24 MONTHS. AS A RESULT, WE EXPECT REVENUE FROM TOURISM TO INCREASE DRAMATICALLY. WE ARE ALSO VERY OPTIMISTIC ABOUT THE REVENUE THAT WE WILL COLLECT FROM GARMENT MANUFACTURING ACTIVITIES, BUT ARE CONCERNED THAT FEDERAL RESTRICTIONS MIGHT CLOSE DOWN THE FACTORIES.

OUR POWER, WATER AND SEWER SYSTEMS HAVE ALSO UNDERGONE SUBSTANTIAL EXPANSION AS A RESULT OF GENEROUS CONGRESSIONAL APPROPRIATIONS FOR NEW CONSTRUCTION AND REHABILITATION. THESE ARE SIGNIFICANT EFFORTS TO MEET THE DEMANDS OF OUR PEOPLE FOR BETTER UTILITY SERVICES AND THE REQUIREMENT OF A SOUND INFRASTRUCTURE FOR ECONOMIC DEVELOPMENT. PRIOR TO 1978, UTILITY SERVICES WERE LIMITED TO VILLAGES CLOSE TO CENTRAL POWER AND WATER SOURCES. I AM PLEASED TO REPORT THAT MOST HOUSEHOLDS NOW ENJOY SUCH BASIC SERVICES. PRIOR TO THAT TIME, TOURISM DEVELOPMENT HAD BEEN DISCOURAGED ALSO DUE TO THE LIMITED CAPACITY OF OUR INFRASTRUCTURE. WE WISH TO STATE AGAIN AS WE HAVE STATED IN PRIOR YEARS THAT MUCH REMAINS TO BE ACCOMPLISHED. AND MUCH IS BEING ACCOMPLISHED AS A RESULT OF THE GENEROUS AND UNDERSTANDING RESPONSE OF THE UNITED STATES TO OUR FINANCIAL ASSISTANCE REQUESTS. LAST FISCAL YEAR, THE CONGRESS APPROPRIATED $1.96 MILLION FOR IMPROVEMENTS TO SAIPAN'S OUTDATED AND DEFECTIVE WATER SYSTEM. I WANT THE COMMITTEE TO KNOW THAT THESE OVER-CEILING REQUESTS ARE PROVIDING AN EXCELLENT BEGINNING IN THE IMPROVEMENT OF PUBLIC WATER SUPPLY WHICH WILL RESULT IN A WATER SYSTEM THAT WILL MEET LEVELS OF U.S. PUBLIC HEALTH DRINKING WATER STANDARDS, WILL PROVIDE FOR EFFICIENT MANAGEMENT

AND OPERATION, INCLUDING BILLING AND COLLECTION FOR SERVICES, AND WILL PROVIDE A SYSTEM THAT WILL RESPOND TO FUTURE WATER NEEDS AND EXPANSION TO ACCOMMODATE DEMANDS FOR THE RAPIDLY GROWING POPULATION AND ECONOMIC DEVELOPMENT, RANGING FROM TOURISM TO LIGHT MANUFACTURING. WORKING WITH TECHNICAL EXPERTS FROM THE BUREAU OF RECLAMATION THROUGH TECHNICAL ASSISTANCE GRANTS FROM OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS OF THE U.S. DEPARTMENT OF THE INTERIOR, WE HAVE DEVELOPED A REALISTIC AND RESPONSIVE EXPENDITURE PLAN USING THESE FUNDS, WHICH WILL REPLACE THE DETERIORATED AND OBSOLETE MAIN TRANSMISSION AND DISTRIBUTION LINES, PROVIDE STANDBY GENERATORS FOR DEEP WELL PUMPING CAPABILITY, COMPLETE REHABILITATION OF DEEP WELL SYSTEMS, IMPROVE METERING AT THE WATER SOURCES AND CONSUMPTION AREAS, PREVENT WATER CONTAMINATION THROUGH PROPER DISINFECTION BY CHLORINATION, AND ALLOW FOR A SYSTEMATIC MONITORING OF WATER QUALITY AND QUANTITY.

THIS YEAR, AS IN YEARS PAST, OUR PRIORITIES INCLUDE COMPLETION OF THE NEW COMMONWEALTH HEALTH CENTER, THE CONSTRUCTION OF WHICH IS WELL ADVANCED (SEE PHOTOGRAPH HANDOUT), CONTINUING IMPROVEMENTS TO OUR WATER SYSTEM, POWER GENERATION AND DISTRIBUTION CAPACITY, ROADS, SEA PORTS AND HARBORS. FOR THE NEW HOSPITAL, WE ARE SEEKING APPROPRIATION OF THE BALANCE OF FUNDS PREVIOUSLY AUTHORIZED IN ORDER TO COMPLETE CONSTRUCTION, PROCURE NECESSARY EQUIPMENT AND HOSPITAL FURNISHINGS, FUND START-UP COSTS AND MAINTENANCE, RECRUIT ADDITIONAL MEDICAL STAFF AND PAY FOR SHORT AND LONG-TERM OFF-ISLAND MEDICAL AND ADMINISTRATIVE TRAINING FOR HOSPITAL PERSONNEL.

AS NOTED, WE ALSO SEEK, AS A MATTER OF URGENCY, ADDITIONAL FUNDS TO CONTINUE TO UPGRADE OUR WATER SYSTEM. WE ACKNOWLEDGE WITH APPRECIATION THE RECOMMENDATION OF THE ADMINISTRATION TO APPROPRIATE 2.8 MILLION DOLLARS IN FY 86 FOR WATER SYSTEM IMPROVEMENT. OUR MOST CONSERVATIVE ESTIMATE AND REQUEST IS FOR FY 86 IS $6 MILLION, WHICH WILL FUND PROJECTS WE BELIEVE WILL PROVIDE THE PROPER GROWTH AND CONTINUITY OF ONGOING WATER

PROJECTS AND ARE RESPONSIVE TO SOCIAL AND ECONOMIC DEVELOPMENT DEMANDS. SAIPAN, TINIAN AND ROTA WATER SYSTEM IMPROVEMENTS ARE TARGETED WITHIN THE FY 86 REQUEST FOR WATER SYSTEMS FUNDS. I AM PLEASED TO REPORT THAT THE SAIPAN AIRPORT WATER CATCHMENT SYSTEM, FUNDED BY THE CONGRESS IN FY 84, IS NOW COMPLETED, ON-LINE, AND PROVIDING SAIPAN WITH 600,000 GALLONS A DAY OF RAINWATER THAT HAS UNDERGONE FILTRATION AND PROPER DISINFECTION. ABOUT 20% OF SAIPAN'S POPULATION IS BENEFITING FROM THIS GOOD QUALITY WATER.

NOTWITHSTANDING THESE DRAMATIC STRIDES TOWARD ECONOMIC SELF-SUFFICIENCY OVER THE PAST SEVEN YEARS, IT IS CLEAR THAT THE NORTHERN MARIANAS CANNOT YET RELY ENTIRELY ON LOCAL REVENUE RESOURCES TO PAY FOR ALL THE EXPENSE OF RUNNING OUR GOVERNMENT, THE DEVELOPMENT OF OUR ECONOMIC BASE, AND THE IMPROVEMENT IN OUR STANDARD OF LIVING ANTICIPATED BY THE COVENANT.

THE NEED TO PROVIDE AN ADEQUATE INFRASTRUCTURE OF ROADS, HARBORS, AIRPORTS, ELECTRICAL POWER AND POTABLE WATER, A CERTIFIED AND ACCREDITED HOSPITAL, AN IMPROVED EDUCATIONAL SYSTEM, AND A POOL OF TRAINED MANPOWER TO SUPPORT ECONOMIC DEVELOPMENT, EASILY OUTSTRIPS OUR ABILITY TO COVER THESE COSTS USING OUR OWN FINANCIAL RESOURCES ALONE. IF WE ARE TO ACHIEVE THESE GOALS, WE ARE COMPELLED TO CONTINUE TO SEEK UNITED STATES FINANCIAL ASSISTANCE IN THE YEARS TO COME.

AS I AM SURE THE COMMITTEE IS AWARE, FISCAL YEAR 1985 ALSO MARKS THE END OF THE INITIAL PERIOD OF GUARANTEED FEDERAL FINANCIAL ASSISTANCE UNDER THE COVENANT. AS PROVIDED BY SECTION 902 OF THE COVENANT, WE ARE NOW IN THE MIDST OF DISCUSSIONS WITH ASSISTANT SECRETARY MONTOYA, PRESIDENT REAGAN'S SPECIAL REPRESENTATIVE FOR THIS PURPOSE, AIMED AT REACHING A JOINT RECOMMENDATION TO THE CONGRESS FOR FUTURE MULTI-YEAR COVENANT FINANCIAL ASSISTANCE TO THE COMMONWEALTH.

I AM PLEASED TO REPORT THAT OUR DELEGATION HAS HAD SEVERAL DISCUSSIONS WITH MR. MONTOYA AND THAT THEY HAVE BEEN BOTH POSITIVE AND PRODUCTIVE. ALTHOUGH WE HAVE YET TO CONCLUDE AN

AGREEMENT, I AM HOPEFUL THAT FOLLOWING ADDITIONAL TALKS WITH MR. MONTOYA, WE WILL ACHIEVE A MUTUALLY SATISFACTORY AND JOINT RECOMMENDATION WHICH WILL PROVIDE A SOLID FOUNDATION FOR ACCELERATED SOCIAL AND ECONOMIC DEVELOPMENT IN THE COMMONWEALTH. WE WILL CONTINUE TO KEEP THE CONGRESS APPRISED OF THE STATUS OF THESE DISCUSSIONS AND HOPE THAT THE CONGRESS WILL LOOK FAVORABLY ON ANY RESULTING JOINT RECOMMENDATION.

I AM SURE THAT THE COMMITTEE IS AWARE THAT THE COVENANT PROVIDES THAT UPON THE EXPIRATION OF THE INITIAL MULTI-YEAR PERIOD OF FEDERAL FINANCIAL ASSISTANCE, PRIOR FUNDING LEVELS WILL CONTINUE UNTIL CONGRESS ENACTS A SUCCEEDING MULTI-YEAR PERIOD. THIS COMMON SENSE PROVISION IS DESIGNED TO ELIMINATE THE RISK THAT FINANCIAL ASSISTANCE TO THE NORTHERN MARIANAS WOULD BE HALTED BY AN INABILITY TO REACH AGREEMENT ON FUTURE LEVELS OF FUNDING. WE BELIEVE THAT CONGRESSIONAL REVIEW OF THE RESULTS OF THE CURRENT DISCUSSIONS BETWEEN THE NORTHERN MARIANAS DELEGATION AND THE PRESIDENT'S SPECIAL REPRESENTATIVE WILL PROVIDE THE APPROPRIATE OCCASION FOR THE CONGRESS TO IMPLEMENT THE NEXT MULTI-YEAR PHASE.

WE THUS SUPPORT THE FY 1986 BUDGET FOR THE COMMONWEALTH SUBMITTED BY THE DEPARTMENT OF THE INTERIOR AS CONSISTENT WITH THE PROVISIONS OF SECTION 704 OF THE COVENANT. FOR FISCAL YEAR 1986, THE COVENANT PROVIDES A TOTAL OF $30,288,000, COMPRISED OF A $27,726,000 BASE APPROPRIATION AND AN ESTIMATED $2,562,000 IN SUPPLEMENTAL REQUESTS FOR INFLATION ADJUSTMENT. THIS TOTAL AMOUNT IS APPORTIONED AS FOLLOWS: $16,339,000 FOR BASIC GOVERNMENT OPERATIONS: $7,921,000 FOR CAPITAL IMPROVEMENT PROJECTS; AND $3,466,000 FOR ECONOMIC DEVELOPMENT. DETAILED BREAKDOWNS OF HOW WE PROPOSE TO EXPEND COVENANT MONIES ARE PROVIDED IN THE BUDGET SCHEDULES WHICH ACCOMPANY MY STATEMENT.

AT THIS POINT, I WOULD LIKE TO TAKE A MOMENT TO BRIEFLY ACQUAINT THE COMMITTEE WITH A FEW OF THE SEVERAL LEGISLATIVE AND EXECUTIVE INITIATIVES THAT THE COMMONWEALTH GOVERNMENT HAS UNDERTAKEN IN A CONTINUING AND DETERMINED EFFORT TO REDUCE BOTH

THE SIZE AND COST OF GOVERNMENT OPERATIONS, RAISE ADDITIONAL OPERATING REVENUES LOCALLY, AND RATIONALIZE AND ACCELERATE OUR ECONOMIC DEVELOPMENT.

OUR LEGISLATURE, FOR EXAMPLE, HAS RECENTLY ENACTED A MEASURE WHICH HAS BEEN SIGNED INTO LAW ESTABLISHING THE COMMONWEALTH UTILITY AUTHORITY, AN INDEPENDENT COMMISSION EMPOWERED TO ESTABLISH REALISTIC CONSUMER UTILITY RATES AND THUS GRADUALLY REDUCE THE EXISTING DISCREPANCY BETWEEN THE COSTS OF PROVIDING UTILITY SERVICES AND THE REVENUES COLLECTED FROM DIRECT SERVICE CHARGES TO CONSUMERS. OUR NEW UTILITY LAW, SIMILAR TO PUBLIC UTILITY COMMISSIONS IN MANY JURISDICTIONS IN THE TERRITORIES AND MAINLAND UNITED STATES, REQUIRES THE AUTHORITY TO ACHIEVE THESE OBJECTIVES WITHIN THREE FISCAL YEARS FOLLOWING ESTABLISHMENT. WE BELIEVE THAT THIS STATUTORY TARGET IS REALISTIC AND WILL RESULT IN THE ELIMINATION OF A CHRONIC ANNUAL DEFICIT IN UTILITY OPERATIONS. IN ADDITION, THE AUTHORITY IS EMPOWERED TO EXPLORE THE FEASIBILITY OF PRIVATIZING SOME OR ALL UTILITY SERVICES WITHIN THE COMMONWEALTH, AN AREA WE VIEW AS PROMISING.

IN CONJUNCTION WITH THE ENACTMENT OF UTILITY AUTHORITY LEGISLATION, WE HAVE ALSO CONDUCTED COMMONWEALTH-WIDE FIELD SURVEYS DESIGNED TO YIELD BASELINE DATA ON WATER AND POWER CONSUMPTION, THE ADEQUACY OF UTILITY METERING, AND CHARACTERISTICS OF THE USER POPULATION. AND IN COORDINATION WITH THAT EFFORT, WE ARE MOVING TO IMPROVE EFFORTS TO MONITOR POWER AND WATER CONSUMPTION THROUGH THE PURCHASE AND INSTALLATION OF UTILITY METERS AND TO STRENGTHEN COLLECTION AND ENFORCEMENT PROCEDURES.

IN ADDITION, THE LEGISLATURE RECENTLY PASSED THE COMMONWEALTH DEVELOPMENT AUTHORITY ACT, ESTABLISHING THE SUCCESSOR AGENCY TO THE ECONOMIC DEVELOPMENT LOAN FUND. UNLIKE THE PREDECESSOR LOAN FUND, THE DEVELOPMENT EFFORTS OF WHICH WERE HAMSTRUNG BY UNREALISTICALLY LOW LOAN CEILINGS, UNACCEPTABLE DELINQUENCY AND DEFAULT RATES, AND REGULATIONS WHICH CONFINED ITS EFFECTIVENESS, THE NEW DEVELOPMENT AUTHORITY REPRESENTS A

QUANTUM LEAP IN OUR EFFORTS TO RATIONALIZE STRATEGIC ECONOMIC PLANNING AND DEVELOPMENT WITHIN THE COMMONWEALTH. THE NEW ACT PROVIDES THE AUTHORITY WITH BROAD GAUGED FINANCING AUTHORITY WHICH WILL ENABLE IT TO MORE EFFECTIVELY DEPLOY ECONOMIC DEVELOPMENT FUNDS USING PUBLIC FINANCING DEVICES SUCH AS TAX EXEMPT REVENUE BONDS AND SIMILAR FINANCIAL LEVERAGING TECHNIQUES.

COUPLED WITH GUARANTEED MULTI-YEAR FEDERAL FINANCIAL ASSISTANCE, WE BELIEVE THAT THE DEVELOPMENT AUTHORITY WILL CONSTITUTE A PIVOTAL ELEMENT IN OUR EFFORTS TO ACCELERATE INSTALLATION OF KEY INFRASTRUCTURE COMPONENTS SUCH AS ADEQUATE ROADS, HARBORS, SEWERS, AND UTILITIES WHICH ARE THE FOUNDATION FOR REAL ECONOMIC GROWTH AND THE DEVELOPMENT OF A TRULY PRIVATE ECONOMY.

WE HAVE ALSO RECENTLY AMENDED OUR STATUTORY DEFINITION OF "CAPITAL IMPROVEMENT PROJECTS" IN ORDER TO INSURE THAT CAPITAL IMPROVEMENT FUNDS ARE EXPENDED FOR RELATIVELY LARGE AND PERMANENT "BRICK AND MORTAR" PHYSICAL IMPROVEMENTS.

WITHIN THE EXECUTIVE, WE ARE MOVING TO INSTALL INTERAGENCY WORKING GROUPS IN THE AREAS OF WATER MANAGEMENT AND HEALTH CARE. THESE AD HOC TASK FORCES, STAFFED BY REPRESENTATIVES FROM ALL CONCERNED DEPARTMENTS AND COORDINATED THROUGH THE OFFICE OF THE GOVERNOR, WILL ARTICULATE EXECUTIVE POLICY AND GOALS, DEFINE AREAS OF REGULATORY NEED, DEVELOP MANAGEMENT PROGRAMS, INCLUDING DETAILED WORK PLANS AND STRATEGIES, AND MONITOR THE SUCCESS OF THEIR EFFORTS. IN ADDITION, THERE ARE PLANS TO CREATE AS AN UMBRELLA ORGANIZATION, AN EXECUTIVE DEVELOPMENT PLANNING GROUP WHICH WILL STUDY AND COORDINATE OVERALL MANAGEMENT AND DEVELOPMENT PLANS FOR THE COMMONWEALTH GOVERNMENT.

FINALLY, WE HAVE PROVIDED THE COMMITTEE WITH A DETAILED STATUS REPORT OF ONGOING PROJECTS IN THE COMMONWEALTH, INCLUDING CONSTRUCTION OF THE HEALTH CENTER PROJECT AND

OPERATIONAL AND STAFFING PLANS; PLANS FOR POWER GENERATION AND DISTRIBUTION; AND PROGRESS IN WATER MANAGEMENT AND RELATED AREAS.

COMMONWEALTH HEALTH CENTER PROJECT

THE TOTAL PROJECT COST OF THE COMMONWEALTH HEALTH CENTER, INCLUSIVE OF SITEWORK, GENERAL CONSTRUCTION, WATERPROOFING, ROOFING, MECHANICAL, ELECTRICAL, EQUIPMENT INSTALLATION, LANDSCAPING, FIXED EQUIPMENT PURCHASES AND THE PURCHASE OF COLLATERAL EQUIPMENT AND FURNISHINGS (GROUP II AND III MOVEABLE EQUIPMENT), IS ESTIMATED TO BE $30,248,345. THE CENTER, WHEN COMPLETED, WILL HAVE 74 BEDS, WITH CAPACITY TO EXPAND TO 100 BEDS, AND WILL PROVIDE IN-PATIENT NURSING, ANCILLARY OUT-PATIENT CLINICS, A PUBLIC HEALTH CLINIC, DENTAL CLINIC, AND SUPPORT AND SUPPLY FACILITIES. IT WILL HAVE EMERGENCY POWER AND WATER SYSTEMS TO GUARD AGAINST TYPHOONS, PERIODIC BROWNOUTS, AND OTHER NATURAL DISASTERS.

IN THE LAST TWO YEARS, $26,370,000 IN FUNDS WAS APPROPRIATED FOR THIS CRITICAL PROJECT. A COST SUMMARY INDICATING WHERE THESE APPROPRIATIONS WERE OBLIGATED IS ATTACHED TO THIS STATEMENT. BASED ON CURRENT CONSTRUCTION COST ESTIMATES, THE TOTAL PROJECT COST IS EXPECTED TO EXCEED THE APPROPRIATION OF $26,370,000. ACCURATE COSTING OF THE PROJECT IS DIFFICULT BECAUSE OF THE RECURRING NEED TO EXECUTE CHANGE ORDERS DUE TO FIELD CONDITIONS AND NECESSARY DESIGN CHANGES DURING CONSTRUCTION. WE ARE REQUESTING THAT THE BALANCE OF $3,630,000 BE PROVIDED IN FY 1986 IN ORDER TO COMPLETE THE OVERALL PROJECT WITHIN THE CONTRACTURAL TIMEFRAME. COST ITEMS THAT WE HAVE NOT YET FUNDED ARE THE TELEPHONE SYSTEM, LABORATORY, AND PROJECT ADMINISTRATION, INCLUSIVE OF ENGINEERING CONSULTATION BY THE DESIGN ENGINEERS. IT IS THE RECOMMENDATION OF THE COMMONWEALTH GOVERNMENT AND THE PROFESSIONAL ENGINEERING, ARCHITECTURAL AND CONSTRUCTION MANAGEMENT FIRMS THAT IT IS VITAL THAT THE

REMAINING $3,630,000 REQUIRED TO RENDER THE FACILITY OPERATIONA BE APPROPRIATED IN FY 1986. THIS WILL ALLOW US TO COMPLETE THE COMMONWEALTH HEALTH CENTER AND PARTIALLY FUND OPERATIONAL START UP IN PREPARATION FOR A SCHEDULED APRIL 1986 OPENING. MORE IMPORTANTLY, FUNDING OF THIS REQUEST WITH THE $3,630,000 WILL ENSURE THAT THE END RESULT WILL NOT BE A FACILITY WHICH IS EMPTY OF REQUIRED MEDICAL EQUIPMENT, TRAINED PERSONNEL AND FACILITY OPERATIONS AND MAINTENANCE PERSONNEL. PLANNING FOR MAINTENANCE OF THE HEALTH CENTER ON A CONTINUING BASIS IS AN IMPORTANT ASPECT OF OUR HEALTH CARE PROGRAM, AS WE WANT TO ENSURE THAT THE FACILITY WILL LAST FOR A LONG TIME. TOO MANY TIMES IN THE PAST, EXPENSIVE PUBLIC PROJECTS FINANCED BY CONGRESS DETERIORATED QUICKLY BECAUSE OF THE LACK OF PROPER MAINTENANCE. THE $3,630,000 BEING REQUESTED IS TO BE SPENT TO COMPLETE THE COMMONWEALTH HEALTH CENTER AND PARTIALLY FUND OPERATIONAL START-UP COSTS.

OPERATIONAL PLAN AND STATUS

THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS HAS THE OPPORTUNITY TO BE THE SITE OF THE FINEST HEALTH CARE FACILITY IN THE PACIFIC, WEST OF HAWAII. THE PHYSICAL PLANT SOON TO BE COMPLETED AND THE EQUIPMENT IT WILL CONTAIN WILL BE FIRST-RATE. WE BELIEVE THAT A MANDATORY MAINTENANCE PLAN IS ESSENTIAL TOWARD ENSURING THAT THE NEW HOSPITAL IS KEPT IN GOOD WORKING CONDITION. THE COMMONWEALTH HAS DEVELOPED A TRANSITION PLAN INCORPORATING ALL ELEMENTS REQUIRED TO IMPLEMENT THE OPERATION OF THE COMMONWEALTH HEALTH CENTER. DUE TO FUNDING LIMITATIONS, A THREE STEP STRATEGY HAS BEEN PROPOSED. BASED ON THIS THREE STEP STRATEGY, THE COMMONWEALTH GOVERNMENT HAS DETERMINED A NEED FOR AN ADDITIONAL $1,500,000 TO COVER OPERATIONAL START-UP COSTS, RECRUITMENT, STAFFING AND ANCILLARY REQUIREMENTS FOR THE NEW CENTER. SEE ATTACHMENT 2.

THE BASIC ASSUMPTION OF STEP ONE IS TO PROVIDE SAFE MEDICAL CARE AT THE PRESENT LEVEL IN THE COMMONWEALTH HEALTH CENTER (CHC). THIS IS EXPECTED TO BE ACCOMPLISHED BY ADDING 71 EMPLOYEES TO THE PRESENT DR. TORRES HOSPITAL STAFF. FORTY-THREE (43) OF THE STAFF WOULD BE PROFESSIONAL AND NURSING. THE PRIMARY REQUIREMENTS FOR ADDITIONS IN THIS CATEGORY ARE THE CHANGE FROM WARD TO SEMI-PRIVATE ROOM CONFIGURATIONS OF THE NURSING FLOORS. TWELVE (12) EMPLOYEES WOULD BE REQUIRED IN THE ADMINISTRATION AND FINANCE SECTIONS TO PROVIDE THE FOUNDATION FOR BASIC SYSTEMS, INCLUDING MEDICAL RECORDS, ADMITTING, BILLING AND COLLECTION. THE SIXTEEN (16) ADDITIONAL STAFF REQUIRED FOR SUPPORT SERVICES IS DICTATED BY THE SIMPLE FACT OF INCREASING THE HOSPITAL SPACE FROM 35,000 SQUARE FEFT TO 110,000 SQUARE FEET. THE MAINTENANCE REQUIRED ON THE NEW MOVABLE AND BUILDING EQUIPMENT MUST BEGIN UPON INSTALLATION.

IN THE FINAL ANALYSIS, HOWEVER, PEOPLE ARE WHAT MAKE AN ORGANIZATION SUCCESSFUL. WITHOUT TRAINED, EXPERIENCED, COMMITTED PEOPLE, THE FINEST FACILITIES IN THE WORLD ARE USELESS. AND WITHOUT A PLAN TO ORGANIZE THE EFFORTS OF THESE PEOPLE, THE OPERATION WILL BE INEFFECTIVE AND INEFFICIENT. A SUBSTANTIAL PORTION OF THIS YEAR'S REQUEST FOR THE HOSPITAL ($1,500,000) IS EARMARKED FOR STAFFING AND MAINTENANCE.

THE SUPPLY COSTS WILL INCREASE IN THE NEW FACILITY DURING FY 86 BECAUSE OF THE INITIAL STOCKING OF THE INCREASED NUMBER OF NURSING STATIONS. MUCH OF THE NEW EQUIPMENT REQUIRES DIFFERENT AND MORE COSTLY SUPPLIES THAN PRESENTLY USED.

THE MEDICAL REFERRAL COST IS NOT EXPECTED TO DECREASE SIGNIFICANTLY DURING THE FIRST FEW YEARS IN THE NEW FACILITY. AS THE HOSPITAL STAFF BECOMES PROFICIENT IN THE OPERATION OF THE NEW EQUIPMENT AND AS THE MEDICAL STAFF DETERMINES THAT PERFORMANCE MEETS ACCEPTABLE CARE AND TREATMENT STANDARDS, THE NUMBER OF REFERRALS CAN BE EXPECTED TO BE REDUCED. DURING THE FIRST TWO YEARS, IT WOULD BE UNREASONABLE TO EXPECT THE

REDUCTION TO MORE THAN OFFSET THE RATE OF INFLATION. CONCENTRATED EFFORTS WILL BE MADE TO NEGOTIATE PREFERRED RATES WITH THE OUT-OF-COMMONWEALTH RECEIVING HOSPITALS.

IN ORDER TO DEVELOP THE TOTAL COST OF PROVIDING MEDICAL CARE TO THE COMMUNITY, IT IS NECESSARY TO INCLUDE THE COST OF HOUSING PERSONNEL RECRUITED FROM OFF-ISLAND. AS THE LOCAL EDUCATION SYSTEM BEGINS TO PRODUCE EITHER LOCALLY OR U.S. TRAINED PROFESSIONAL TO FILL THE REQUIRED HEALTH POSITIONS, THE COST OF HOUSING AND RECRUITMENT SHOULD DECREASE. THE ADDITIONAL COST OF CONTRACT EMPLOYEE TURN OVER IS NOT INCLUDED BUT IS AN IMPORTANT CONSIDERATION. THE COST OF UTILITIES MUST ALSO BE INCLUDED TO ARRIVE AT THE COST OF PROVIDING HEALTH CARE.

THE "OTHERS" COST CATEGORY HAS INCREASED SUBSTANTIALLY. SPECIALIZED EQUIPMENT MAINTENANCE CONTRACTS, RECRUITMENT OF OFF-ISLAND PROFESSIONAL AND MEDICAL STAFF, AND CONTRACTED SERVICES ARE THE PRIMARY REASONS FOR THE INCREASE.

WHILE ALL OF THE DOLLAR FIGURES ARE IN THE EARLY STAGES OF FINALIZATION, THEY REPRESENT A REASONABLE ESTIMATE OF THE COSTS INVOLVED FOR THE TRANSITION TO THE NEW FACILITY.

THE SECOND STEP WOULD BEGIN OCTOBER 1, 1986, AT WHICH TIME CHC WOULD HAVE RECRUITED THE PERSONNEL NECESSARY TO MEET THE REQUIREMENTS FOR MEDICARE/MEDICAID CERTIFICATION. (SEE STAFFING PLAN ATTACHED). THE BILLING AND CASH COLLECTION SYSTEMS WOULD HAVE BEEN DEVELOPED WHICH WILL GENERATE SIGNIFICANT REVENUES FROM THE CNMI PRIVATE SECTOR, FROM MEDICARE AND MEDICAID.

THE THIRD STEP WOULD BE TO MEET REQUIREMENTS OF THE JOINT COMMISSION ON ACCREDITATION OF HOSPITAL (JCAH). THIS STEP WOULD TAKE PLACE WHEN IT HAS BEEN DETERMINED THAT STEP TWO HAS PROGRESSED TO A POINT TO BE USED AS THE BASE TO INCREASE THE QUALITY OF CARE TO JCAH STANDARDS.

ALL OF THE REQUESTED FUNDS WILL BE EXPENDED DURING FY 1986 AS EXPLAINED IN ATTACHMENT 2.

POWER

AT THIS TIME WE ARE REQUESTING AN APPROPRIATION OF 7 MILLION DOLLARS REPRESENTING THE BALANCE OF THE AUTHORIZATION OF P.L. 95-348 FOR ADDITIONAL POWER GENERATING CAPABILITY FOR SAIPAN AND ROTA POWER PLANTS, AND FOR DISTRIBUTION AND TRANSMISSION SYSTEMS FOR THE ISLANDS OF SAIPAN, TINIAN AND ROTA. THE ISLAND OF ROTA HAS BEEN UNDER POWER RATIONING SINCE SEPTEMBER OF 1984, AND CONDITIONS THERE ARE SO CRITICAL THAT BUSINESS INVESTMENT AND OTHER ECONOMIC DEVELOPMENTS ARE BEING DISCOURAGED. IT IS NECESSARY THAT FUNDS BE MADE AVAILABLE WITHOUT DELAY. IN SAIPAN, IT IS NECESSARY TO PROCURE AN ADDITIONAL GENERATOR FOR INSTALLATION AT THE NEW SAIPAN PERMANENT POWER STATION. THE POWER PLANT WAS CONSTRUCTED WITH A 5 MILLION DOLLAR APPROPRIATION UNDER A 12 MILLION DOLLAR AUTHORIZATION MADE IN FY 79 (P.L. 95-348). THE POWER PLANT WAS ORIGINALLY PLANNED TO MEET THE IMMEDIATE NEEDS OF SAIPAN. OUR ECONOMIC AND SOCIAL GROWTH, HOWEVER, HAVE EXCEED OUR PROJECTION FOR POWER AND WE NOW FIND THAT WITHOUT AN IMMEDIATE ADDITION TO OUR PRESENT GENERATING CAPACITY, WE MIGHT HAVE TO ASK THE DEVELOPERS OF HOTELS AND OTHER INDUSTRIES TO PROVIDE THEIR OWN POWER NEEDS. WE FEEL THAT THIS WILL BE NEGATIVE AND COUNTER-PRODUCTIVE TO OUR EFFORTS TO ENCOURAGE PRIVATE ECONOMIC DEVELOPMENT. OUR GOVERNMENT, WE BELIEVE, HAS A DIRECT RESPONSIBILITY TO PROVIDE SUFFICIENT POWER INFRASTRUCTURE TO ENCOURAGE PRIVATE INVESTMENT.

AT THE PRESENT TIME, THE MAINTENANCE SCHEDULE OF THE NEW SYSTEMS REQUIRES SHUT DOWN OF ONE GENERATOR FOR ROUTINE AND SCHEDULED MAINTENANCE, THUS REDUCING THE GENERATING CAPABILITY BELOW PRESENT DEMAND, FORCING RELIANCE ON THE EXPENSIVE, ANTIQUATED BACK-UP SYSTEM. THIS SITUATION WILL CONTINUE AS LONG AS WE DO NOT HAVE THE FIFTH GENERATING UNIT, CAUSING LONGER OUTAGES PER OCCURRENCE.

WE ARE ALSO REQUESTING AN APPROPRIATION OF 4 MILLION DOLLARS FOR THE UPGRADING AND HARDENING OF THE POWER DISTRIBUTION

SYSTEMS IN SAIPAN, TINIAN AND ROTA. THE UPGRADING AND TYPHOON HARDENING OF THE POWER DISTRIBUTION SYSTEMS ON SAIPAN, TINIAN AND ROTA HAS BEEN A HIGH PRIORITY PLANNED FOR SEVERAL YEARS, BUT HAS NOT BEEN IMPLEMENTED DUE TO THE UNAVAILABILITY OF FUNDS. CONSTRUCTION OF THE SYSTEM MUST BE UNDERTAKEN TO ENSURE AVAILABILITY OF ELECTRICAL POWER TO MEET THE RAPIDLY GROWING DEMAND IN THE POPULATION CENTERS AS WELL AS TO PERMIT CONTINUED INDUSTRIAL, COMMERCIAL AND OVERALL ECONOMIC GROWTH. SUCH CONSTRUCTION WILL ALLEVIATE THE RECURRING ELECTRICAL OUTAGES ASSOCIATED WITH THE OPERATION AND MAINTENANCE OF THE PRESENT POWER DISTRIBUTION SYSTEMS AND REDUCE THE COSTLY AND EXCESSIVE VOLTAGE DROPS IN THE SYSTEMS. SEE ATTACHMENT 3.

WATER SUPPLY

AS WITH HEALTH FACILITIES, WE CONSIDER WATER PRODUCTION, DISTRIBUTION, AND EXTENSION OF SERVICES TO UNSERVED AREAS FOR RESIDENTIAL AS WELL AS BUSINESS DEVELOPMENT SUCH AS HOTEL CONSTRUCTION, TO BE THE SAME HIGH PRIORITY. MR. CHAIRMAN, IN ALL PREVIOUS TESTIMONIES BEFORE YOUR COMMITTEE, WE HAVE EMPHASIZED THE NEED FOR FUNDS TO IMPROVE OUR WATER SYSTEM. WE SUPPORT THE 2.85 MILLION DOLLARS PROPOSED BY THE ADMINISTRATION IN THE BUDGET FOR THE SAIPAN WATER PROJECTS. ALTHOUGH THIS AMOUNT IS SUFFICIENT FOR SOME MAJOR IMPROVEMENTS IN SAIPAN, IT IS NOT ADEQUATE TO PERMIT US TO MOVE AHEAD ON SIMILAR IMPROVEMENTS FOR THE ISLANDS OF ROTA AND TINIAN. I RESPECTFULLY REQUEST THAT THE AMOUNT BE INCREASE TO OUR ORIGINAL REQUESTED FIGURE OF 6 MILLION DOLLARS UNDER THE AUTHORIZATION OF 15 MILLION DOLLARS AS PROVIDED BY P.L. 98-454. THE PROPOSED PROJECTS ARE DESIGNED TO PROVIDE THE IMPROVEMENTS NECESSARY TO ENSURE CONTINUOUS WATER SERVICE TO THE MAJORITY OF THE POPULATION CENTERS OF OTHER POPULATED ISLANDS, AS WELL AS RURAL COMMUNITIES AND AGRICULTURE LANDS. THESE PROJECTS ARE EXPECTED

TO DRAMATICALLY IMPROVE THE WATER SUPPLY TO THOSE AREAS THAT HAVE BEEN UNSERVED OR UNDERSERVED. SEE ATTACHMENT 4.

HEAVY OPERATING & EMERGENCY EQUIPMENT

THE COMMONWEALTH GOVERNMENT, IN ITS CONCERTED EFFORT TO IMPLEMENT THE PROVISIONS OF THE PROPOSED MULTI-YEAR FUNDING SCHEDULE UNDER THE COVENANT AND IN ASSURED COOPERATION WITH THE FEDERAL GOVERNMENT, HAS DETERMINED THAT CURRENT LOCAL REVENUES ARE INSUFFICIENT TO PROCURE HEAVY OPERATING AND EMERGENCY EQUIPMENT NEEDED TO CARRY OUT VITAL PUBLIC SERVICES. NEW EQUIPMENT (SEE ATTACHMENT 5) IS ABSOLUTELY NECESSARY FOR THE COMMONWEALTH GOVERNMENT TO CONTINUE VITAL SERVICES TO THE PUBLIC, TO OPERATE AND MAINTAIN OUR INFRASTRUCTURE, AND TO PERMIT CONTINUED ECONOMIC GROWTH.

WAR CLAIMS

ANOTHER MATTER OF CONTINUING CONCERN TO OUR PEOPLE IS THE SETTLEMENT OF WORLD WAR II CLAIMS. WE WOULD LIKE THE CONGRESS TO REASSESS THE AUTHORIZING LEGISLATION ON THIS ISSUE AND PROVIDE A REALISTIC SOLUTION IN MAKING AVAILABLE THE FUNDS FOR COMPENSATING CLAIMS ALREADY ADJUDICATED FOR TITLE I WAR CLAIMS BY THE FEDERALLY-ENACTED MICRONESIAN WAR CLAIMS COMMISSION.

MELON FLY ERADICATION

THE "U.S.D.A. MELON FLY TASK FORCE REPORT OF MAY 1983" WAS PREPARED BY REPRESENTATIVES OF THE ANIMAL & PLANT HEALTH INSPECTION SERVICE. THE TASK FORCE VISITED THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS AND THE GOVERNMENT OF GUAM TO ASSESS THE MELON FLY INFESTATION. THE MELON FLY IS A MAJOR PEST OF AGRICULTURE CROPS. AT THE CULMINATION OF THE TASK FORCE'S ASSESSMENT TRIP THIS YEAR, THEY ESTIMATED THAT IT WILL COST

$300,000 FOR ROTA AND $2,000,000 FOR GUAM TO CONDUCT A MELON FLY ERADICATION CAMPAIGN. WE WOULD LIKE TO REQUEST YOUR ASSISTANCE IN APPROPRIATING THE NECESSARY FUNDS TO THE U.S. DEPARTMENT OF AGRICULTURE TO IMPLEMENT THIS PROJECT FOR BOTH ROTA AND GUAM. FUNDING FOR GUAM IS ESSENTIAL IN THIS EQUATION IF BOTH JURISDICTIONS ARE TO PREVENT REINFESTATION. WE PRESENTED A STATEMENT OF THIS NEED FOR FUNDING IN LAST YEAR'S BUDGET STATEMENT; HOWEVER, AS WE NEAR IMPLEMENTATION OF THE PROGRAM, FUNDING BECOMES EXTREMELY CRITICAL. THEREFORE, WE REQUEST THAT FUNDING BE MADE AVAILABLE IN FY 1986.

TRUST TERRITORY SOCIAL SECURITY PRIOR SERVICE PROGRAM

SINCE 1968 THE TRUST TERRITORY OF THE PACIFIC ISLANDS HAS ADMINISTERED THE TRUST TERRITORY SOCIAL SECURITY RETIREMENT FUND. ONE OF THE PRIMARY FEATURES OF THIS PROGRAM PROVIDED RETIREMENT BENEFITS TO HUNDREDS OF EMPLOYEES OF THE TRUST TERRITORY GOVERNMENT OR THE UNITED STATES NAVY FOR AT LEAST FIVE YEARS PRIOR TO THE ESTABLISHMENT OF THE PROGRAM. HISTORICALLY, THESE BENEFITS HAVE BEEN PAID OUT OF APPROPRIATIONS TO THE TRUST TERRITORY FROM THE UNITED STATES CONGRESS.

THE DEPARTMENT OF THE INTERIOR DOES NOT THIS YEAR, NOR HAS IT IN THE PAST, SOUGHT FUNDS TO CONTINUE THIS PROGRAM AFTER TERMINATION OF THE TRUSTEESHIP AGREEMENT. THE REGULAR T.T. SOCIAL SECURITY PROGRAM, ARE ENTIRELY SELF-SUSTAINING. THE PRIOR SERVICE BENEFITS PROGRAM IS NOT. INSTEAD THE UNITED STATES GOVERNMENT CHOSE TO FINANCE THIS PROGRAM THROUGH ANNUAL APPROPRIATIONS.

CONSEQUENTLY, WHEN THE COMPACT OF FREE ASSOCIATION IS APPROVED AND THE TRUSTEESHIP AGREEMENT TERMINATED, THE PRIOR SERVICE RECIPIENTS FACE TERMINATION OF THEIR SOCIAL SECURITY BENEFITS. IT IS MY UNDERSTANDING THAT THE COMPACT OF FREE ASSOCIATION, LIKE OUR COVENANT, CONTAINS NO PROVISION FOR THE CONTINUATION OF THESE BENEFITS.

A FUND OF SOME $13 MILLION IS NECESSARY TO FINANCE THE T.T. PRIOR SERVICE BENEFITS PROGRAM INTO THE FUTURE. I SEE NO WAY THAT THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS OR OTHER NEWLY CREATED POLITICAL ENTITIES IN MICRONESIA CAN SHOULDER THIS BURDEN. FOR THE FEDERAL GOVERNMENT TO MAKE NO PROVISION TO CONTINUE THESE BENEFITS WOULD BE TO BREACH FAITH WITH ITS FORMER EMPLOYEES AND THEIR SURVIVORS.

WE ALL HOPE THAT THE COMPACT OF FREE ASSOCIATION WILL BE APPROVED THIS YEAR. I HOPE THAT YOUR COMMITTEE WILL NOT LEAVE THIS ISSUE UNRESOLVED AND I SUPPORT APPROPRIATION OF THE FULL AMOUNT IN FY 1986.

CONCLUSION

MR. CHAIRMAN AND MEMBERS OF THIS COMMITTEE, WE HAVE SUBMITTED A LIST OF ADDITIONAL FUNDING REQUESTS WHICH THE COMMONWEALTH OF THE NORTHERN MARIANAS CONSIDERS TO BE VITAL TO OUR SOCIAL AND ECONOMIC DEVELOPMENT. WE HAVE TRIED OUR BEST TO FIND LOCAL FUNDING THROUGH SUBSTANTIAL INCREASES IN UTILITY RATES AND COLLECTION OF NEW TAXES, BUT WE STILL HAVE A LONG WAY TO GO. WITHOUT PROPER INFRASTRUCTURE IN PLACE, WE WILL NEVER BE ABLE TO DEVELOP THE ECONOMIC RESOURCES NEEDED TO MEET OUR FINANCIAL RESPONSIBILITIES AS A SELF-GOVERNING COMMONWEALTH WITHIN THE AMERICAN COMMUNITY.

WHILE WE RECOGNIZE THAT THE NATIONAL MOOD IS TO DECREASE SPENDING TO REDUCE THE FEDERAL DEFICIT, WE IN THE CNMI ARE STILL STRUGGLING TO DEVELOP OUR ISLAND'S INFRASTRUCTURE, TO PROVIDE BASIC SERVICES TO OUR COMMUNITIES, AND TO ENCOURAGE DEVELOPMENT THAT WILL PROVIDE THE TAX BASE FOR LOCAL REVENUE. WE ARE ASKING, IN ESSENCE, FOR MINIMUM FINANCIAL ASSISTANCE WHICH WILL GRADUALLY ELEVATE OUR STANDARD OF LIVING FROM ONE OF MARGINAL POVERTY TO ONE THAT BRINGS US CLOSER TO A STANDARD TYPICAL OF A SMALL AMERICAN COMMUNITY. THANK YOU VERY MUCH.

APPENDIX

April 5, 1985

MEMORANDUM

Subject: Various Options for Funding Prior Service Benefits under Trust
Territory Social Security System

This memorandum presents a study of various options for funding the Prior Service Benefits under the Trust Territory Social Security System. Such a study was requested of the Department of the Interior, to be completed by March 1, 1985, by the Congress in appropriations legislation last year (see House Report 98-886), but it has not yet been submitted. This action was taken in lieu of the immediate establishment of a funding plan for this program -- but not to be considered as opposed thereto -- such as was passed by the Senate in connection with this legislation (an initial installment of $2.5 million) or the full funding (of $15 million) as requested by the House Committee on Interior and Insular Affairs (Committee Print No. 6, March 15, 1984, page 68).

Background

As Chief Actuary of the Social Security Administration, I was given the assignment by the Department of the Interior in 1965 to study the feasibility of establishing a social security program in the Trust Territory of the Pacific Islands. I recommended that this be done. By and large, my specific recommendations were adopted, and the program began operations in 1968, including the Prior Service Benefits plan. I provided continuing actuarial and technical advice thereafter.

The Prior Service Benefits program provides recognition for government service rendered before July 1968 for persons who had at least 5 years of such service. The monthly benefit rate currently is 3 percent of the monthly salary not in excess of $250 on July 1, 1968, or the date of termination of service, if earlier, multiplied by the years of prior service in excess of 5 years.

Such benefit rate initially was 1½ percent, but it has been increased from time to time so as to partially recognize price inflation. The monthly benefits provided by the Prior Service Benefits plan are quite modest. In June 1983, the average benefit was $32. At that time, 661 persons were receiving benefits.

It is commonly the case that, when an employer establishes a pension plan, credit is given for service prior to the effective date and that the cost thereof is paid for completely by the employer. There are many different ways in which this prior-service cost can be financed.

One method would be for the immediate lump-sum payment of an amount which together with future interest earnings, would meet the prior-service benefit cost as it arises over the years. Another method would be to meet the resulting benefit costs as they arise from year to year -- which is the method followed to date in the Trust Territory. Yet another method would be to make equal annual payments for a fixed number of years which, together with the interest earnings, would meet the prior-service costs over the years as they arise.

When the Trust Territory Social Security program was established, a supplementary independent Prior Service Benefit plan was also developed. It is important to note that, at that time and all subsequent periods back to the termination of World War II, the Trust Territory government was, in essence, an agent of the U. S. Government, because it could take no binding actions without the approval of the High Commissioner, who was an employee of the U. S. Government.

It thus seems very clear that any obligations with respect to the Prior Service Benefits are the responsibility of the U. S. Government, which established the plan and has financed it to date. If the Trust Territory (or any parts thereof) and the United States sever their present relationship, and such entity becomes independent, then the U. S. Government should continue to meet its financial liability for Prior Service Benefits.

Various Funding Options

Such obligation can be met in a number of reasonable and equitable ways. One approach would be to continue to meet the costs of the Prior Service Benefits year by year as they are paid to the pensioners.

Another approach would be to discharge the liability by a single lump-sum payment. Still another method would be to make lump-sum payments every fifth year which would approximate what is now estimated to be the total benefit payments in the 5-year period centering around each fifth year.

Or lump-sum payments could be made for several years so as to discharge the liability at the end of the period (the total of such lump sums would, of course, be somewhat larger than on the "immediate lump-sum" basis, because of the loss of interest earnings under the former basis as compared with the latter basis).

Any lump-sum payment would be computed on a present-value basis, using an interest discount rate. Such interest rate would be a "real" (or inflationless) rate, such as 3 percent. Then, if actual investment earnings are higher, as a result of inflation, the "excess" interest could be used to provide compensating cost-of-living increases.

If there is to be advance funding -- through the payment of a single lump sum or a series of annual lump sums that will be in excess of the current yearly outgo -- it would be necessary to establish a trust fund. Such fund would pay the benefits as they arise (as well as the associated administrative expenses) and would invest the available remaining monies from the lump-sum payment. The trust fund would be under the supervision of a board of trustees. Actuarial valuations would be needed periodically to assure that future benefit obligations will be met and to determine whether the investment earnings have been sufficiently high (due to the margin of the actual rates of return over the "real"interest rate on which the lump sums were based) as to warrant cost-of-living increases in the benefits.

Now, turning to the Prior Service Benefits plan, if it were to have advance funding, there are two alternatives as to how a trust fund could be established. First, it could be a completely separate entity from the U. S. Government (even though it would be desirable to have at least one of its trustees be a U. S. Government official, so as to assure that the assets are used for the intended purpose). Second, it could be a trust fund held by the U. S. Government and managed by the Secretary of the Treasury -- just as is done with the U. S. Social Security trust funds -- with its trustees including representatives from the several governmental entities which formerly were the Trust Territory. For reasons which will be indicated later, I strongly recommend the latter alternative.

Pros and Cons of Various Funding Options

The present financing approach of meeting the cost of the benefits year by year as they arise could work out quite satisfactorily. The difficulty with this procedure is that it involves a long-range uncertainty as to costs to the U. S. Government and that the former TT government entities may not have the assurance that the year-by-year payments will continue (or, at the least, that there may be continual argument and uncertainty involved).

On the other hand, a lump-sum "payment in full" would eliminate these uncertainties for all parties concerned and would equitably rid the U. S. Government of further obligations, while giving reasonable assurance of lifetime benefits to the beneficiaries. As will be discussed next, a series of lump sums in lieu of a single one is not necessary from a budgetary standpoint, and so is not as desirable as a one-time lump-sum settlement.

If the trust fund is administered by the Secretary of the Treasury in the same manner as are the U. S. Social Security trust funds, any lump-sum payments by the U. S. Government to the Prior Service Benefits Trust Fund would not have any effect whatsoever on the U. S. Budget. The latter would be affected only by withdrawals from the trust fund to make payments for benefits and administrative expenses. (Nor would the interest payments on the U. S. Government bonds held by the trust fund affect the U. S. Budget.) This is so because the transfer of $15 million from the General Fund of the Treasury to the Prior Service Benefits Trust Fund is entirely within the Budget and is thus completely offsetting insofar as Budget expenditures are involved. Thus, at this time of great concern over the U. S. Budget's deficit, it is not an argument against the immediate full lump-sum procedure of financing the U. S. Government's obligation for Prior Service Benefits that this would adversely affect the U. S. Budget any more than the present method of meeting the costs year by year as they arise.

Current and Future Operations

The cost of the Prior Service Benefits in current years runs somewhere around $300,000 a year, which is what has been met. This amount will grow in the future and will peak in about the next 10 years at around $800,000, and it will gradually fall off and eventually become zero, because this is a closed group that we are dealing with, and there are no new entrants into it.

The payments that would be made if financed on a year-by-year basis would total about $25 million. This naturally is significantly above the lump-sum payments as of the present time of $15 million, because, if the latter amount were available, it would be earning interest for many years.

The President's Budget would eliminate any payments for Prior Service Benefits for citizens of the Republic of the Marshalls and the Federated States of Micronesia after September 1985, when they would become independent of the United States. The same thing would occur for the citizens of the Republic of Palau at some later date (but not for the citizens of the Northern Mariana Islands, which are federated with the United States). This would be very unfair to the individuals receiving Prior Service Benefits, which would probably be terminated, because -- as I indicated earlier -- these benefits are, in reality, obligations of the U. S. Government with respect to service rendered to it. I am not a legal expert, so I am not certain whether there is a legal loophole by which such liability can be avoided, but there is no doubt in my mind that there is a strong moral obligation present.

Conclusions

In conclusion, I strongly believe that the obligation for the Prior Service Benefits is that of the U. S. Government, to whom the services in question were rendered and, further, who approved the plan. There are numerous ways in which the future liability for Prior Service Benefits can be met -- from an immediate lump-sum payment of $15 million to annual payments spread out over the next 50 years, in amounts equal to the benefits paid each year (and the associated administrative expenses). In my opinion, the best procedure would be the immediate payment of $15 million into a Prior Service Benefits Trust Fund newly established within the U. S. Treasury and operated in the same manner as the U. S. Social Security trust funds. Because such operation would be within the U. S. Unified Budget, the budgetary effect of such action in the FY 1986 Budget would be increased expenditures of only about $300,000, not $15 million.

Robert J. Myers
Robert J. Myers, Consultant

STATEMENT OF BENJAMIN T. MANGLONA

I AM BENJAMIN T. MANGLONA, VICE PRESIDENT AND CHAIRMAN OF THE FISCAL AFFAIRS COMMITTEE OF THE SENATE OF THE FOURTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE. I AM INDEED PRIVILEGED AND HAPPY TO APPEAR BEFORE YOUR DISTINGUISHED COMMITTEE TODAY TO OFFER TESTIMONY ON BEHALF OF THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS BUDGET REQUEST FOR FISCAL YEAR 1986. AND BEFORE I BEGIN MY TESTIMONY, I WOULD LIKE TO EXTEND TO THE COMMITTEE WARMEST GREETINGS AND A HEARTY HAFA ADAI FROM THE PEOPLE OF THE NORTHERN MARIANAS. HAVING APPEARED BEFORE YOUR DISTINGUISHED COMMITTEE SEVERAL SUCCESSIVE YEARS NOW, WE WHO REPRESENT THE PEOPLE OF THE NORTHERN MARIANAS, HAVE COME TO

FEEL MOST WELCOME IN OUR NATION'S CAPITAL AND TO KNOW THAT WE ARE AMONG FRIENDS.

TO ANY NEW MEMBERS IN YOUR COMMITTEE, I EXTEND OUR MOST SINCERE CONGRATULATIONS WITH THE HOPE THAT YOU, WILL CONTINUE TO GIVE THE NORTHERN MARIANAS THE SAME BIPARTISAN SUPPORT WE HAVE BEEN RECEIVING OVER THE PRIOR YEARS AND THAT IS NOW AIDING US IN OUR EFFORT TO BECOME A PRODUCTIVE PART OF THE AMERICAN FAMILY.

WE BELIEVE IT IS IMPORTANT TO LOOK AT THE SUBJECT OF UNITED STATES FINANCIAL SUPPORT TO THE COMMONWEALTH IN THE CONTEXT OF MULTI-YEAR ASSISTANCE, OF PROBLEMS AND ACCOMPLISHMENTS TO DATE, OF APPROPRIATE FEDERAL POLICY TOWARD OUR ISLANDS, OF OUR GENERAL RELATIONSHIP WITH THE UNITED STATES, AND OF HISTORIC AND ECONOMIC FACTORS THAT HAVE INFLUENCED WHERE WE ARE TODAY. MY TESTIMONY WILL SEEK TO PROVIDE THAT CONTEXT.

AS YOU KNOW, FISCAL YEAR 1985 WAS, UNDER THE TERMS OF THE COVENANT, THE FINAL YEAR OF THE INITIAL SEVEN-YEAR PERIOD OF U.S. MULTI-YEAR FINANCIAL ASSISTANCE TO THE COMMONWEALTH FOR GOVERNMENT OPERATIONS, CAPITAL IMPROVEMENTS, AND ECONOMIC DEVELOPMENT. WE ARE PLEASED TO REPORT THAT THE POLICY OF LOCAL AUTONOMY COUPLED WITH THE FORMULA OF MULTI-YEAR FINANCIAL SUPPORT HAS WORKED WELL IN THE FIRST SEVEN YEARS OF LOCAL GOVERNMENT. OUR ECONOMY HAS GROWN, AND LOCAL REVENUES SUPPORT A GREATER PROPORTION OF THE COSTS OF OUR GOVERNMENT THAN EVER BEFORE. PUBLIC SERVICES HAVE BEEN IMPROVED AND EXPANDED. ALTHOUGH THERE HAVE BEEN MANY SIGNIFICANT ACHIEVEMENTS AND IMPROVEMENTS, WE HAVE TO ADMIT THAT THERE HAVE BEEN ALSO A NUMBER OF MISTAKES AND REPORTED INSTANCES OF POOR MANAGEMENT. WHERE WE HAVE FAILED AND MADE MISTAKES, WE HAVE LEARNED, AND WE HAVE TAKEN AND ARE CONTINUING TO TAKE STEPS TO CORRECT THOSE PROBLEMS.

ALONG THIS LINE, MR. CHAIRMAN, IT IS WORTHY OF NOTE THAT ABOUT A WEEK AND A HALF AGO, VOTERS IN THE COMMONWEALTH ELECTED DELEGATES TO THE FORTHCOMING CONSTITUTIONAL CONVENTION TO REVIEW OUR CONSTITUTION AND TO PROPOSE AMENDMENTS FOR RATIFICATION BY

OUR VOTERS IN NOVEMBER. WE ARE CONFIDENT THAT THE PRODUCT OF THAT CONVENTION WILL RESOLVE MANY PROBLEMS WE HAVE EXPERIENCED IN IMPLEMENTING A NEW GOVERNMENT.

WE BELIEVE IT IS A TRIBUTE TO AMERICAN DEMOCRATIC PRINCIPLES AND THE PEOPLE OF THE NORTHERN MARIANAS THAT THE FRAMEWORK OF GOVERNMENT AND THE DEVELOPMENT STRATEGY AGREED UPON BY THE NORTHERN MARIANAS AND THE UNITED STATES AS EMBODIED IN THE COVENANT HAS BEEN SO EFFECTIVE NOT ONLY IN SPEEDING RECOVERY FROM THE DEVASTATION CAUSED BY THE WAR BETWEEN THE UNITED STATES AND JAPAN, BUT ALSO IN DEVELOPING OUR CAPACITY TO BE SELF-SUPPORTING.

LOCALLY GENERATED REVENUES HAVE JUMPED FROM A PALTRY $5.0 MILLION IN FY 1978 TO $28.8 MILLION IN FY 1984, AN AVERAGE ANNUAL INCREASE OF 29 PERCENT. IN FY 1978, THE COMMONWEALTH CONTRIBUTED ONLY ABOUT ONE OUT OF EVERY THREE DOLLARS SPENT ON LOCAL GOVERNMENT OPERATIONS. BY FY 1984, NEARLY $1.50 OF LOCALLY GENERATED REVENUES WAS BEING SPENT ON GOVERNMENT OPERATIONS FOR EVERY FEDERALLY-CONTRIBUTED DOLLAR OF COVENANT OPERATIONS FUNDING. ALSO IN FY 1984, TOTAL LOCAL REVENUES EXCEEDED TOTAL COVENANT FUNDING (OPERATIONS, CAPITAL IMPROVEMENT, AND ECONOMIC DEVELOPMENT COMBINED) FOR THE FIRST TIME IN THE SEVEN YEAR HISTORY OF THE COMMONWEALTH. IN THAT FISCAL YEAR, LOCAL REVENUES WERE MORE THAN $2 MILLION GREATER THAN COVENANT FUNDS. AT THE SAME TIME THESE REMARKABLE GAINS WERE BEING MADE IN SELF-SUPPORT, THE COMMONWEALTH WAS ABLE TO SUBSTANTIALLY EXPAND GOVERNMENT OPERATIONS AND BRING THE LEVEL OF PUBLIC SERVICES CLOSER TO AMERICAN STANDARDS. IN REAL DOLLARS, OUR GROSS ECONOMIC PRODUCT HAS GROWN 159 PERCENT OVER THE PAST SEVEN YEARS, REPRESENTING AN ANNUAL ECONOMIC GROWTH RATE OF ROUGHLY 15 PERCENT. DURING THE SAME TIME THE MULTI-YEAR FINANCIAL ASSISTANCE FROM THE UNITED STATES GOVERNMENT HAS REMAINED CONSTANT, IN REAL TERMS. THE NUMBER OF BUSINESS ENTERPRISES IN THE COMMONWEALTH HAS TRIPLED FROM 1978 TO 1984. WHILE STILL FAR BELOW WAGES IN THE UNITED STATES, THE AVERAGE

INCOME FOR WORKERS IN THE COMMONWEALTH HAS STEADILY INCREASED AT A RATE OF ABOUT 13 PERCENT PER YEAR.

WE BELIEVE THIS PROGRESS IS A DIRECT RESULT OF TWO FUNDAMENTAL ASPECTS OF THE COVENANT: LOCAL AUTONOMY AND GUARANTEED MULTI-YEAR FINANCIAL ASSISTANCE. LOCAL AUTONOMY HAS MADE IT POSSIBLE FOR US TO DEVELOP AND IMPLEMENT SOUND LAWS AND POLICIES THAT ARE RESPONSIVE TO LOCAL NEEDS AND CONDITIONS. OUR TAX SYSTEM IS A GOOD EXAMPLE. IT PROVIDES INCENTIVES FOR ECONOMIC DEVELOPMENT AND EFFICIENTLY RAISES EVER-INCREASING AMOUNTS OF REVENUE. U.S. GUARANTEED MULTI-YEAR FINANCIAL ASSISTANCE HAS MADE IT POSSIBLE FOR OUR GOVERNMENT TO MOVE FORWARD WITH LONG RANGE PLANS FOR ESSENTIAL INFRASTRUCTURE DEVELOPMENT.

WE ARE ALSO PLEASED TO REPORT THAT WE ARE MAKING PROGRESS IN THE NEGOTIATIONS PURSUANT TO SECTION 902 OF OUR COVENANT WHICH WERE UNDERTAKEN WITH THE PRESIDENT'S SPECIAL REPRESENTATIVE, ASSISTANT SECRETARY OF THE INTERIOR FOR TERRITORIAL AND INTERNATIONAL AFFAIRS RICHARD MONTOYA. THESE NEGOTIATIONS ADDRESS THE FUTURE PERIOD OF MULTI-YEAR FINANCIAL ASSISTANCE. THIS FUTURE PERIOD WILL PROVIDE A SOUND FOUNDATION FOR CONTINUED ECONOMIC DEVELOPMENT, HEALTH, AND SOCIAL WELFARE IN THE COMMONWEALTH, AND WILL ASSIST IN AVOIDING SOME OF THE INEFFICIENCIES OF THE PAST.

WE SUPPORT THE FY 1986 BUDGET FOR THE COMMONWEALTH AS SUBMITTED BY THE DEPARTMENT OF INTERIOR IN THAT IT REFLECTS THE PROVISIONS OF ARTICLE 7 OF THE COVENANT (U.S. PUBLIC LAW 94-241). THIS FORMAL AGREEMENT BETWEEN THE UNITED STATES AND OUR ISLANDS GUARANTEES THAT THE UNITED STATES, USING A SERIES MULTI-YEAR FUNDING ARRANGEMENTS, WILL ASSIST OUR GOVERNMENT IN ITS EFFORTS TO ACHIEVE A PROGRESSIVELY HIGHER STANDARD OF LIVING FOR OUR PEOPLE. AS YOU KNOW, THE COVENANT PROVIDES THAT FINANCIAL ASSISTANCE TO THE COMMONWEALTH WILL CONTINUE AT THE SAME LEVELS AFTER EXPIRATION OF THE INITIAL SEVEN YEAR PERIOD OF GUARANTEED FINANCIAL ASSISTANCE, UNTIL THE SUBSEQUENT

MULTI-PERIOD IS IMPLEMENTED BY CONGRESS. MULTI-YEAR PERIODS WERE ADOPTED BY CONGRESS AND THE COMMONWEALTH AS A FUNDING REQUIREMENT TO PERMIT MORE EFFICIENT PLANNING FOR THE USE OF THE FUNDS. WE BELIEVE THAT THE APPROPRIATE TIME TO IMPLEMENT THE NEXT MULTI-YEAR PERIOD IS UPON COMPLETION OF YOUR REVIEW OF THE RESULTS OF THE MULTI-YEAR FINANCIAL ASSISTANCE NEGOTIATIONS NOW IN PROGRESS PURSUANT TO SECTION 902 OF THE COVENANT (U.S. PUBLIC LAW 94-241).

IN ADDITION, WE WOULD LIKE ONCE AGAIN TO SOLICIT THE UNDERSTANDING OF YOUR DISTINGUISHED COMMITTEE AND THE CONGRESS IN SUPPLEMENTING THE BUDGET FOR THE COMMONWEALTH BY PROVIDING FOR SOME VITAL AND SIGNIFICANT CAPITAL IMPROVEMENT PROJECTS THAT ARE PRESENTLY BEYOND THE CAPABILITY OF OUR GROWING, BUT LIMITED, LOCAL RESOURCES. THE PROJECTS WHICH ARE SO IMPORTANT TO OUR CONTINUING ECONOMIC AND SOCIAL DEVELOPMENT HAVE ALREADY BEEN OUTLINED IN THE TESTIMONY OF OUR GOVERNOR. IN A FEW MINUTES, I WOULD LIKE TO ADD A FEW WORDS TO THE GOVERNOR'S TESTIMONY ON THOSE PROJECTS.

FEDERAL-NMI POLICY

WE BELIEVE THAT THE GUIDING PRINCIPLE FOR FEDERAL POLICY TOWARD THE COMMONWEALTH SHOULD BE THE PROMOTION OF PRIVATE SECTOR DEVELOPMENT AND SELF-IMPROVEMENT. THIS IS MOST EFFECTIVELY ACCOMPLISHED THROUGH CLEAR AND CONSISTENT APPLICATION OF A POLICY OF SELF-DETERMINED POLITICAL, ECONOMIC AND SOCIAL DEVELOPMENT. AS NOTED BY THE U.S. GENERAL ACCOUNTING OFFICE, THIS HAS BEEN THE GENERAL (ALTHOUGH NOT EXPRESSLY STATED OR ALWAYS EVENLY APPLIED) POLICY OF THE UNITED STATES SINCE THE END OF WORLD WAR II. WE BELIEVE THIS POLICY SHOULD BE REAFFIRMED AND MORE FULLY EXECUTED.

WE NOTE THAT THE UNITED STATES GENERAL ACCOUNTING OFFICE RECENTLY COMPLETED A MAJOR STUDY OF ISSUES AFFECTING U.S. TERRITORY AND INSULAR POLICY. THAT STUDY SPECIFICALLY ASKED, WITHOUT RESOLVING, THE QUESTION OF WHETHER THE FEDERAL ORGANIZATIONAL STRUCTURE COULD BE IMPROVED TO BETTER MEET TERRITORIAL CONCERNS AND CARRY OUT U.S. POLICY OBJECTIVES ON THIS POINT. OUR RECOMMENDATION IS THAT THE OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS BE ELEVATED TO THE WHITE HOUSE LEVEL. THE FUNCTION OF OTIA IS SUBSTANTIALLY DIFFERENT FROM THOSE OF THE REST OF THE DEPARTMENT OF INTERIOR. OTIA IS ONLY A SMALL PART OF THE DEPARTMENT OF THE INTERIOR, RESULTING IN A FAILURE FOR THE TERRITORIES TO RECEIVE THE HIGH LEVEL ATTENTION FROM THE UNITED STATES GOVERNMENT THAT IS COMMENSURATE WITH THEIR IMPORTANCE TO THE NATIONAL AND INTERNATIONAL INTERESTS OF THE UNITED STATES.

TAX RELATIONSHIP

TERRITORIAL TAX POLICY IS A SUBJECT OF FUNDAMENTAL IMPORTANCE TO ECONOMIC GROWTH IN THE COMMONWEALTH ALONG WITH ADOPTION BY OUR GOVERNMENT OF DEVELOPMENTAL POLICIES AND PROGRAMS RESPONSIVE TO LOCAL NEEDS. THE SUBJECT OF IMPLEMENTATION OF THE INTERNAL REVENUE CODE AS "MIRROR-IMAGE" SYSTEM OF LOCAL TAXATION HAS BECOME A VERY SERIOUS ISSUE IN OUR RELATIONS WITH THE UNITED STATES. WE GREATLY DESIRE TO RESOLVE THIS ISSUE.

OUR POSITION ON THE TAX ISSUE IS UNITED AND GROUNDED IN ECONOMIC REALITY. WE REGRET THAT THE UNITED STATES GOVERNMENT HAS SOMETIMES MISUNDERSTOOD CONDITIONS IN OUR ISLANDS AND THE STEPS WE HAVE TAKEN TO IMPLEMENT THE INTERNAL REVENUE CODE AS REQUIRED BY THE COVENANT. NONETHELESS, THE IRC HAS, AT THIS TIME BEEN FULLY IMPLEMENTED. WE BELIEVE THAT THE INTERNAL REVENUE CODE IS A DESTRUCTIVE SYSTEM OF TAXATION FOR THE COMMONWEALTH. WE NOTE THAT THE EFFECTIVENESS AND EQUITY OF THE IRC IS SERIOUSLY BEING QUESTIONED BY THE AMERICAN PEOPLE. THE "MIRROR-IMAGE" DOES NOT RAISE REVENUE EFFECTIVELY FOR US, AND IT IS A DISINCENTIVE TO ECONOMIC DEVELOPMENT. IT SHOULD BE

REMEMBERED THAT PRIOR TO THE INCEPTION OF THE COMMONWEALTH, THE STATUS NEGOTIATORS ESTIMATED THAT THE "MIRROR-IMAGE" IRC WOULD RAISE $21 MILLION IN REVENUE FOR THE ENTIRE SEVEN YEAR PERIOD OF GUARANTEED FINANCIAL ASSISTANCE. IN FACT, USING OUR LOCALLY DESIGNED TAX SYSTEM, THE COMMONWEALTH RAISED $59 MILLION DURING THAT PERIOD. THIS AMOUNT IS SUBSTANTIALLY GREATER THAN THE REVENUES FORECAST FOR THE IRC, AND OUR TAXES DO NOT DISCOURAGE INVESTMENT AND DEVELOPMENT.

BEFORE LEAVING THE TAX QUESTION, HOWEVER, IT IS IMPORTANT TO ADDRESS SOME CONCERNS RAISED BY THE CONGRESS RELATIVE TO THE MANNER IN WHICH WE IMPLEMENTED THE INTERNAL REVENUE CODE. THESE QUESTIONS RELATE TO OUR AUTHORITY TO "REJECT" FUTURE CODE AMENDMENTS, THE SECTIONS OF THE CODE IMPLEMENTED, AND THE SO-CALLED "FLOOR EXCLUSION". WE HAVE NO DESIRE TO CHALLENGE THE SUPREMACY OF FEDERAL LAW, AND, ACKNOWLEDGING THE AMBIGUITY THOSE PROVISIONS CAUSE, WE REMOVED THE OBJECTIONAL LANGUAGE IN THE INTERESTS OF CONCILIATION.

THE CHARGE THAT THE COMMONWEALTH DID NOT FULLY IMPLEMENT THE IRC AS REQUIRED IS TOTALLY WITHOUT FOUNDATION. WE RECOGNIZED THAT A CURSORY REVIEW OF THE IMPLEMENTING ACT MIGHT GIVE THIS IMPRESSION, BUT THE FACT IS THAT ALL IRC PROVISIONS IN FORCE ON GUAM WERE PLACED IN FORCE AND EFFECT IN THE COMMONWEALTH EXACTLY AS REQUIRED BY THE COVENANT.

INFRASTRUCTURE DEVELOPMENT

EVEN THOUGH NEARLY 29 PERCENT OF THE U.S. FINANCIAL ASSISTANCE PROVIDED TO THE COMMONWEALTH DURING THE INITIAL SEVEN YEAR PERIOD WAS EARMARKED FOR CAPITAL IMPROVEMENT PROJECTS, THE COMMONWEALTH HAS MAJOR UNMET INFRASTRUCTURE NEEDS THAT ARE ACTING AS A HUGE STUMBLING BLOCK TO ECONOMIC DEVELOPMENT. CHIEF AMONG THESE ARE THE DEPLORABLE CONDITION OF OUR PUBLIC WATER, POWER AND SEWAGE SYSTEM, ROADS, AND HARBORS.

COMMONWEALTH FUNDING FOR INFRASTRUCTURE DEVELOPMENT HAS BEEN SPREAD VERY THIN DURING THE FIRST MULTI-YEAR PERIOD DUE TO THE NEED TO ENSURE THAT EVERY ASPECT OF SOCIAL, ECONOMIC AND GOVERNMENTAL DEVELOPMENT RECEIVE SOME ATTENTION, WITHIN THE LIMITATIONS OF THE CIP FUNDS AVAILABLE UNDER THE COVENANT. WHEN PLANNING STUDIES WERE COMMENCED IN 1976, IT QUICKLY BECAME APPARENT THAT THE MAJOR INFRASTRUCTURAL NEEDS OF THE COMMONWEALTH COULD NOT BE MET IN FULL BY THE COVENANT FUNDS AVAILABLE. AS A RESULT, OVER-CEILING REQUESTS FOR CAPITAL IMPROVEMENT PROJECTS WERE MADE TO CONGRESS EACH YEAR. WHILE SOME OF THESE REQUESTS WERE GRANTED, THE COMMONWEALTH IS FAR FROM HAVING THE BASIC INFRASTRUCTURE ESSENTIAL TO ECONOMIC DEVELOPMENT. INDEED, MOST OF OUR CAPITAL IMPROVEMENT SPENDING OVER THE PAST SEVEN YEARS HAD TO BE DEDICATED TO MAINTAINING EXISTING INFRASTRUCTURE TO MEET THE DEMANDS OF A GROWING RESIDENTIAL, BUSINESS AND TOURIST POPULATION.

THE COMMONWEALTH HAS IDENTIFIED NEARLY $280 MILLION IN VITAL CAPITAL IMPROVEMENT PROJECTS THAT NEED TO BE COMPLETED IN THE NEXT SEVEN YEARS TO SUPPORT ECONOMIC DEVELOPMENT, MEET THE GROWING DEMANDS OF POPULATION AND BUSINESS, AND REPLACE DETERIORATING INFRASTRUCTURE. THESE CIP NEEDS ARE IN THE AREAS OF ROADS (27%), PORTS & HARBORS (23%), POWER (14%), WATER (15%), SEWERS (10%), EDUCATIONAL FACILITIES (8%), PUBLIC BUILDINGS (4%), AND HEALTH (0.3%). THESE ESTIMATES DO NOT INCLUDE EXPECTED CAPITAL OUTLAYS OF SOME $12 MILLION OVER THE NEXT SEVEN YEARS FOR NECESSARY HEAVY EQUIPMENT, AND OPERATIONS AND MAINTENANCE.

FOR THE MOST PART, OUR FUNDING NEEDS FOR CAPITAL IMPROVEMENTS ARE BEING ADDRESSED IN OUR MULTI-YEAR FINANCIAL ASSISTANCE NEGOTIATIONS. IN ORDER TO DO OUR PART WE ARE DEVISING PLANS AND STRATEGIES TO GET THE MAXIMUM POSSIBLE BENEFIT OF OUR NEXT MULTI-YEAR PERIOD OF FUNDING. IN PARTICULAR, WE PLAN, BY USE OF THE UNITED STATES GUARANTEED FINANCIAL SUPPORT OF THE COMMONWEALTH, TO USE OUR FUNDS TO

GUARANTEE INFRASTRUCTURE PROJECTS THROUGH USE OF TAX EXEMPT REVENUE BONDS AND OTHER LEVERAGING TECHNIQUES. SURPLUS EDLF FUNDS WILL CONTRIBUTE TO THIS NEW FINANCING EFFORT THANKS TO THE RECENTLY ENACTED COMMONWEALTH DEVELOPMENT AUTHORITY ACT. THIS ACT REPLACES OUR NARROWER ECONOMIC DEVELOPMENT LOAN FUND WITH A BROADLY CONSTITUTED FINANCING AUTHORITY THAT WILL APPLY THE ECONOMIC DEVELOPMENT FUND SURPLUS TO HIGH PRIORITY CAPITAL IMPROVEMENT PROJECTS FOR WATER AND POWER. THUS, WE HOPE TO BRING OUR CAPITAL IMPROVEMENT TIMETABLE FORWARD AND COMPLETE THE ESSENTIAL POWER, WATER, TRANSPORTATION, HEALTH AND EDUCATION SYSTEMS UPON WHICH REAL ECONOMIC DEVELOPMENT DEPENDS.

HOWEVER, SOME OF THESE ARE OF SUCH PRESSING URGENCY THAT WE ASK THAT YOU INCLUDE THEM IN THE FY 1986 APPROPRIATIONS AS OVER-CEILING REQUESTS FOR THE COMMONWEALTH. THESE ARE:

A.	POWER	
	1. DISTRIBUTION	$ 3.0 MILLION
	2. GENERATION	$ 7.0 MILLION
B.	WATER	$ 6.0 MILLION
C.	HEALTH CENTER CONSTRUCTION	$ 3.63 MILLION
D.	HEALTH CENTER OPERATION	$ 1.5 MILLION
E.	HEAVY EQUIPMENT	$ 2.0 MILLION
F.	PORT DEVELOPMENT	$15.0 MILLION
G.	MELON FLY ERADICATION	$ 2.3 MILLION
H.	MEMORIAL PARK	$ 3.0 MILLION
I.	HIGHWAY	$ 6.0 MILLION
J.	WASTE WATER	$ 3.0 MILLION
K.	PERFORMING ARTS CENTER	$ 5.8 MILLION
L.	COLLEGE	$ 2.9 MILLION

OTHER IMPORTANT ISSUES

AS IN YEARS PAST, I WISH TO ADDRESS YOUR ATTENTION TO SOME LONG-STANDING ECONOMICALLY RELATED CONCERNS, PARTICULARLY COST

OF LEGISLATIVE OPERATIONS, WAR CLAIMS, HAZARDOUS PEST ERADICATION, AND LAND GRANT STATUS FOR OUR COLLEGE.

LEGISLATIVE OPERATIONS COSTS

LEGISLATIVE OPERATIONS COSTS, WHICH ARE OF GREAT CONCERN TO US, EVOLVED OVER SEVERAL YEARS. EVERY TWO YEARS COINCIDENTAL WITH ELECTIONS THERE IS A RESTRUCTURING OF LEGISLATIVE LEADERSHIP. EACH OUTGOING ADMINISTRATION HAS LEFT BEHIND UNMET FINANCIAL OBLIGATIONS, THE BURDEN OF WHICH FALLS ON THE NEW LEADERSHIP, WHICH FEELS THAT THIS INHERITED DEBT IS AN INFRINGEMENT ON ITS OWN EXPENDITURE AUTHORITY. SUPPLEMENTAL FUNDS ARE THEN APPROPRIATED TO RESTORE THE LOSS CAUSED BY THE SUCCESSIVE OBLIGATIONS OF THE PRIOR LEADERSHIP.

SIMILARLY AN OUTGOING MEMBER OF THE LEGISLATURE WILL LEAVE BEHIND STAFF WHICH BECAME EMPLOYED UNDER THE RETIRING MEMBER'S PATRONAGE. THE NEW MEMBERS ARE INEVITABLY RELUCTANT TO DISCHARGE THESE PEOPLE. NONETHELESS THE NEW MEMBERS WANT THEIR OWN PEOPLE WORKING WITH THEM, AND WITH EACH ELECTION THE SIZE OF THE LEGISLATURE HAS GROWN.

THERE HAVE BEEN OTHER CAUSES FOR LEGISLATIVE COST INCREASES. ONE LAME-DUCK LEGISLATURE IN ANTICIPATION OF LOSING PRIVILEGE AND POWER AT THE CONVENING OF THE NEW LEGISLATURE, CONTRIVED AN ELEVENTH-HOUR BUDGET AMENDMENT THAT ZERO FUNDED THE NEW ADMINISTRATION AND SECURED CONSIDERABLE FUNDS FOR THEMSELVES AS THE NEXT TERM MINORITY. THE NEW LEGISLATURE WAS UNABLE TO REPEAL THE BUDGET AMENDMENTS BECAUSE IT COULD NOT COMMAND SUFFICIENT VOTES TO OVERRIDE THE GUBERNATORIAL VETO OF THE REPEALER BILL. NOR WAS THE NEW MAJORITY SUCCESSFUL IN OVERTURNING THE ELEVENTH-HOUR BUDGET AMENDMENTS IN A LAWSUIT. ULTIMATELY SUBSTANTIAL AMOUNTS OF MONEY HAD TO BE APPROPRIATED TO REPLACE THE RAIDED FUNDS. THIS PARTICULAR INCIDENT TRIGGERED A SPECIAL SENATE INVESTIGATION TO CONSIDER APPLICATION OF CRIMINAL STATUTES, DISCIPLINARY SANCTIONS AGAINST MEMBERS, RULES

CHANGES AND REMEDIAL LEGISLATION. AS THE SAYING GOES, THE HORSE WAS ALREADY OUT OF THE BARN. UNFORTUNATELY ONCE LARGE NUMBERS OF PEOPLE ARE ON THE PAYROLL IT IS QUITE DIFFICULT TO DISCHARGE THEM.

RECENTLY WE HAVE MADE SOME PROGRESS IN FINDING SOLUTIONS FOR THIS PROBLEM.

- STATUTES HAVE BEEN ENACTED SETTING SALARY CEILINGS FOR LEGISLATIVE EMPLOYEES, AND RESTRICTING THE EXPENDITURE AUTHORITY OF LAME-DUCK MEMBERS;
- A CONSTITUTIONAL AMENDMENT HAS BEEN PROPOSED ESTABLISHING A BUDGET CEILING FOR LEGISLATIVE OPERATIONS.
- THE SENATE HAS INTRODUCED AND PASSED A BILL MANDATING A 50% REDUCTION IN ITS OWN FORCE OVER THE NEXT 18 MONTHS, AND ESTABLISHING A SPECIAL JOINT COMMITTEE ON LEGISLATIVE BUDGET CONTROL.
- THE PROPOSED FY 86 LEGISLATIVE OPERATIONS BUDGET IS REDUCED BY $2.1 MILLION.

WAR CLAIMS

THE NORTHERN MARIANA ISLANDS WERE RAVAGED BY WORLD WAR II. THE ENTIRE ECONOMIC BASE WAS WHOLLY AND COMPLETELY DESTROYED, ALONG WITH THE ENTIRE ADMINISTRATIVE APPARATUS AND MANY OF THE RECORDS OF BIRTHS, DEATHS, AND LAND OWNERSHIP. 14,224 AMERICANS, 28,811 JAPANESE AND MANY CHAMORROS AND CAROLINIANS WERE KILLED. AFTER THE INVASION, SAIPAN AND TINIAN WERE TURNED INTO A HUGE MILITARY BASES. THE CIVILIAN POPULATION WAS INTERNED FOR ALMOST TWO YEARS.

A MICRONESIAN CLAIMS COMMISSION WAS ESTABLISHED BY THE UNITED STATES IN 1971 PURSUANT TO THE MICRONESIAN WAS CLAIMS ACT AND PROCEEDED TO DETERMINE NECESSARY, JUST AND FAIR WARTIME DAMAGES TO BE AWARDED. WHILE THE GREATER PORTION OF THESE CLAIMS HAS ALREADY BEEN PAID, SOME $24 MILLION IS STILL DUE

UNDER TITLE 1, WHICH INCLUDED CLAIMS FOR THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS.

UNDER TITLE 1, JAPAN WAS TO PAY 50% OF THE CLAIMS. HOWEVER, AN AGREEMENT SIGNED IN 1969 BY THE UNITED STATES AND JAPAN FREED JAPAN OF ANY FUTURE LIABILITY FOR REPARATIONS. NEVERTHELESS, THE GOVERNMENT OF JAPAN HAS PROVIDED CONSIDERABLE AID TO MICRONESIA IN THE FORM OF GRANTS AND IN-KIND ASSISTANCE. CERTIFICATION BY THE UNITED STATES THAT THIS JAPANESE DEVELOPMENT ASSISTANCE TO THE TRUST TERRITORY CONSTITUTES THE REQUIRED JAPANESE CONTRIBUTION IN SETTLEMENT OF THESE CLAIMS WOULD PAVE THE WAY FOR THE UNITED STATES TO PAY THE REMAINING BALANCE OF THIS LONG-STANDING OBLIGATION.

THE ISSUE OF WAR CLAIMS IS A MATTER OF GREAT SENSITIVITY AND CONCERN TO THE PEOPLE OF THE NORTHERN MARIANAS AND ALL OF MICRONESIA. OUR PEOPLE SUFFERED THE CONSEQUENCES OF A WAR IN WHICH THEY WERE HELPLESS AND INNOCENT VICTIMS. WE ARE MERELY ASKING FOR FAIR COMPENSATION FOR THE SEVERE ECONOMIC LOSSES, INCLUDING LIVES, WE SUFFERED MORE THAN FORTY YEARS AGO. IT IS TIME TO BRING THIS MATTER TO A CLOSE.

THE 1969 AGREEMENT WITH JAPAN WAS MADE WITHOUT ANY CONSULTATION WHATSOEVER WITH REPRESENTATIVES FROM THE MARIANAS OR OTHER MICRONESIAN COMMUNITIES. AS A RESULT OF THIS UNILATERAL ACTION BY THE U.S., THE PEOPLE OF THE MARIANAS AND MICRONESIA CAN ONLY FEEL THAT THE UNITED STATES HAS ASSUMED FULL RESPONSIBILITY FOR SETTLEMENT OF THE REMAINING WAR CLAIMS. THE REQUIRED CERTIFICATION BY THE U.S. SEEMS TO US TO BE A SIMPLE MATTER WITH TECHNICAL AND LEGAL CONCERNS THAT THE UNITED STATES CAN EASILY CORRECT. WE URGE YOUR COMMITTEE AND THE CONGRESS TO FULFILL ITS MORAL DUTY AND TAKE WHATEVER STEPS ARE NECESSARY TO PAY IN FULL THE REMAINING WAR CLAIMS DURING FY 1986.

MELON FLY ERADICATION

THE MAJOR INHABITED ISLANDS IN THE NORTHERN MARIANAS, NAMELY SAIPAN, ROTA AND TINIAN HAVE GREAT AGRICULTURAL POTENTIAL FOR SUBSISTENCE AND COMMERCIAL FARMING. TODAY THIS POTENTIAL IS THREATENED BY A SERIOUS INFESTATION OF MELON FLIES. AGRICULTURAL PRODUCTION HAS ALREADY SUFFERED CONSIDERABLE LOSSES AND GROWTH POTENTIAL HAS BEEN VIRTUALLY ELIMINATED.

DURING THE JAPANESE ADMINISTRATION, MANY ACRES OF ARABLE LAND IN THESE THREE ISLANDS WERE CULTIVATED AS SUGAR CANE, COTTON, TOBACCO, AND PAPAYA PLANTATIONS FOR EXPORT AND LOCAL CONSUMPTION. ALSO, VARIETIES OF VEGETABLES, FRUITS AND ROOT CROPS DURING THOSE DAYS PROVED TO BE VERY SUITABLE AND PRODUCTIVE, PROVIDING A STEADY SUPPLY OF FOOD TO OUR INDIGENOUS PEOPLE AND TO THE JAPANESE NATIONALS RESIDING IN OUR ISLANDS.

SINCE THE SECOND WORLD WAR, FARMING HAS CONTINUED TO BE A VITAL PART OF OUR ISLANDS' ECONOMY. MANY OF OUR PEOPLE TODAY DEPEND ON SUBSISTENCE AND COMMERCIAL FARMING FOR THEIR DAILY FOOD SUPPLIES AND CASH INCOME. ADDITIONALLY, WITH THE IMPLEMENTATION OF THE FOOD STAMP PROGRAM IN THE NORTHERN MARIANAS SEVERAL YEARS AGO, A REQUIREMENT WAS IMPOSED THAT TWENTY FIVE PERCENT (25%) OF THE FOOD STAMP COUPONS BE USED TO PURCHASE LOCAL AGRICULTURAL AND MARINE PRODUCTS. WITH THIS INCENTIVE, FARMING ACTIVITIES EXPANDED AND PRODUCTION HAS INCREASED.

TO FURTHER ILLUSTRATE THE HARMFULNESS OF THIS INSECT, WE WISH TO DIRECT YOUR ATTENTION TO A SIMILAR PROBLEM IN CALIFORNIA SEVERAL YEARS AGO WHEN THE MEDITERRANEAN FRUIT FLY POSED A VERY SERIOUS THREAT TO THE VALUABLE AND PRODUCTIVE CALIFORNIA ORANGE INDUSTRY. THE MELON FLY PROBLEM IN ROTA AND GUAM WHICH WE ARE REFERRING TO YOU TODAY IS A SIMILAR PROBLEM. WE ARE GIVEN TO UNDERSTAND THAT THE U.S. CONGRESS, ONCE IT LEARNED OF THE SERIOUSNESS OF THE THREAT TO THE ORANGE INDUSTRY IN CALIFORNIA, CAME TO THE RESCUE BY PROVIDING MONETARY AND TECHNICAL

ASSISTANCE. WE ARE CONFIDENT, TOO, THAT YOUR COMMITTEE FULLY UNDERSTANDS THAT AGRICULTURE PLAYS A VITAL ROLE IN OUR ISLANDS' ECONOMY. BEFORE MELON FLY INFESTATION, ROTA WAS A MAJOR PRODUCER AND EXPORTER OF FARM PRODUCE. THIS WAS ALSO THE SITUATION DURING THE JAPANESE AND TRUST TERRITORY ADMINISTRATIONS. BUT, TODAY, THE SITUATION HAS CHANGED DRASTICALLY. IMPORT RESTRICTION OF FARM PRODUCE TO MELON FLY FREE AREAS EVEN WITHIN THE COMMONWEALTH HAVE BROUGHT EXPORT TO HALT AND HAVE TRANSFORMED ROTA'S FARM LANDS INTO ROTA'S WASTE LANDS.

A REQUEST FOR ASSISTANCE FROM THE USDA WAS MADE JOINTLY BY CNMI AND GUAM, AND IN 1983, A TEAM OF EXPERTS FROM USDA'S ANIMAL PLANT INSPECTION SERVICE (APHIS), PLANT PROTECTION AND QUARANTINE (PPQ), AND AGRICULTURE RESEARCH SERVICE (ARS) VISITED THE CNMI AND GUAM TO INVESTIGATE AND REPORT ON THE MELON FLY PROBLEM IN THE MARIANAS AND TO MAKE RECOMMENDATIONS FOR ERADICATION. BASED ON THEIR INVESTIGATION, THE USDA TEAM OF EXPERTS RECOMMENDED METHODS OF ERADICATION OF THE MELON FLY FROM ROTA AND GUAM AND ESTIMATED THE COST OF $2.3 MILLION.

WE BELIEVE THIS IS MATTER OF CRITICAL IMPORTANCE AND SOME URGENCY. DELAY WILL MAKE IT MORE DIFFICULT AND COSTLY TO ERADICATE THE MELON FLY ON ROTA AND GUAM AND COULD RESULT IN THE INFESTATION SPREADING TO THE OTHER MARIANA ISLANDS WHICH ARE NOT NOW INFESTED. USDA IS NOW PROVIDING PLANNING AND TECHNICAL ASSISTANCE IN GATHERING MORE STATISTICS ON THE MELON FLY POPULATION, HABITAT AND BEHAVIORAL CHARACTERISTICS ON ROTA. WITH THIS INFORMATION, USDA WILL BE ABLE TO DETERMINE THE BEST TECHNOLOGY AND METHOD TO USE TO EFFECTIVELY ERADICATE THIS PEST. OUR GOVERNMENT AND THE GOVERNMENT OF GUAM BOTH DESIRE TO ERADICATE THIS PEST. TO BE EFFECTIVE AND AVOID REINFESTATION, THE ERADICATION PROGRAM HAS TO BE IMPLEMENTED SIMULTANEOUSLY ON ROTA AND GUAM, SINCE THESE TWO ISLANDS ARE ONLY ABOUT 25 MILES APART, SHORE-TO-SHORE.

LAND GRANT STATUS

THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS HAS A RICH HERITAGE WITH AGRICULTURE AS ITS FOUNDATION. ALTHOUGH THERE HAVE BEEN NUMEROUS CHANGES OVER THE PAST SEVERAL CENTURIES, WITH INFLUENCES FROM FOUR FOREIGN GOVERNMENTS, AGRICULTURE CONTINUES TO PLAY A VITAL ROLE IN DAILY ISLAND LIFE.

GOVERNMENT SUPPORT OF AGRICULTURE SINCE WORLD WAR II HAS BEEN MINIMAL, AT BEST. WHERE ONCE OVER 35,000 ACRES OF LAND WERE BEING CULTIVATED IN THE NORTHERN MARIANA ISLANDS, AS OF 1983 APPROXIMATELY 500 ACRES REMAINED UNDER CULTIVATION.

LAND GRANT STATUS WOULD PROVIDE THE YOUNG COMMONWEALTH GOVERNMENT A FUNDING BASE FOR REGROWTH OF THE AGRICULTURE INDUSTRY. LAND GRANT STATUS WOULD ALSO OPEN DOORS TO ORGANIZED TECHNICAL ASSISTANCE NOT NOW AVAILABLE WITHIN THE COMMONWEALTH.

EMPHASIS IN RECENT YEARS HAS BEEN MADE TO REDUCE GOVERNMENT OPERATIONS AND STRENGTHEN THE PRIVATE SECTOR. A STRONG PROGRAM IN BOTH FORMAL AND INFORMAL EDUCATION IN THE FIELD OF AGRICULTURE HAS THE POTENTIAL FOR CREATING NUMEROUS CAREERS AND JOB OPPORTUNITIES IN THE OVERALL AGRICULTURE SYSTEM.

OUR NORTHERN MARIANAS COLLEGE IS ALREADY PARTICIPATING IN COOPERATIVE EXTENSION AND STATE RESEARCH SERVICES, AND HAS ALSO EMBARKED ON A FORMAL AGRICULTURE DEGREES PROGRAM. WITHOUT THE

TRUSTEESHIP TERMINATION

MR. CHAIRMAN, WE ARE PLEASED THAT THE OTHER MICRONESIAN ENTITIES HAVE COMPLETED THEIR NEGOTIATIONS FOR THEIR FUTURE POLITICAL STATUS AND POSSIBLE TERMINATION OF THE TRUSTEESHIP IS NOW CLOSE AT HAND. HOWEVER, SINCE EXECUTION OF OUR COVENANT WITH THE UNITED STATES, SEVERAL ISSUES OF VITAL CONCERN TO OUR WELL BEING HAVE ARISEN BETWEEN THE NORTHERN MARIANAS AND THE UNITED STATES. THESE MATTERS, WHICH INCLUDE SUCH ISSUES AS INTERNAL REVENUE CODE ALTERNATIVES, CONTROL OF LOCAL FISHERY AND

SEABED ASSETS, WAR CLAIMS, THIRD COUNTRY FOREIGN AID, AND PROBLEMS OUR PEOPLE HAVE HAD WITH THE U.S. IMMIGRATION AND CUSTOMS, REMAIN UNRESOLVED. THESE ISSUES ARE FUNDAMENTAL TO OUR POLITICAL RELATIONSHIP AND THE RELIABILITY OF THE COVENANT AS A VEHICLE TO ENSURE OUR CONTINUED POLITICAL, ECONOMIC, SOCIAL AND EDUCATIONAL DEVELOPMENT AS GUARANTEED BY THE TRUSTEESHIP AGREEMENT. WE SUPPORT TERMINATION OF THE TRUSTEESHIP AGREEMENT WITH RESPECT TO THE NORTHERN MARIANAS UPON A MUTUALLY SATISFACTORY RESOLUTION OF THESE ISSUES, AND CONGRESSIONAL APPROVAL OF A SUCCEEDING MULTI-YEAR PERIOD OF COVENANT FINANCIAL ASSISTANCE.

CONCLUSION

YOU, MR. CHAIRMAN, AND YOUR DISTINGUISHED COMMITTEE AND THE UNITED STATES GOVERNMENT HAVE COLLECTIVELY BEEN VERY HELPFUL AND UNDERSTANDING IN TERMS OF OUR NEEDS FROM YEAR TO YEAR. IN ADDITION TO THE SEVEN YEARS OF GUARANTEED FUNDING FOR OPERATIONS, CAPITAL IMPROVEMENTS, AND ECONOMIC DEVELOPMENT, WE HAVE BEEN ASSISTED GREATLY BY FUNDING FOR SUCH CRITICALLY IMPORTANT PROJECTS AS A NEW POWER PLANT, HEALTH FACILITIES, AND WATER SYSTEM IMPROVEMENTS, AMONG OTHER THINGS. THE PEOPLE AND GOVERNMENT OF THE NORTHERN MARIANA ISLANDS WOULD LIKE THE GOVERNMENT OF THE UNITED STATES, AND YOUR COMMITTEE IN PARTICULAR, TO KNOW WE ARE DEEPLY APPRECIATIVE OF THE CONTINUING GOOD WILL, SUPPORT, AND HELP OVER THE YEARS. YOUR CONSIDERATE ATTENTION TO OUR SPECIAL FINANCIAL NEEDS HAS MEANT A LOT TO THE PEOPLE OF THE NORTHERN MARIANA ISLANDS AND OUR ECONOMIC AND SOCIAL PROGRESS.

TREMENDOUS PROGRESS HAS BEEN MADE, BUT MUCH REMAINS TO BE DONE. CONSEQUENTLY, WE HUMBLY REQUEST YOUR FAVORABLE CONSIDERATION OF THE BUDGETARY NEEDS WE HAVE PRESENTED HERE TODAY AND FOR A FUTURE PERIOD OF MULTI-YEAR FINANCIAL ASSISTANCE BASED UPON THE RESULTS OF OUR NEGOTIATIONS.

STATEMENT OF GREGORIO C. SABLAN

MY NAME IS GREGORIO C. SABLAN, I AM A MEMBER OF THE HOUSE OF REPRESENTATIVES OF THE FOURTH NORTHERN MARIANAS COMMONWEALTH LEGISLATURE. I WISH TO EXPRESS MY GRATITUDE FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TO PRESENT OUR TESTIMONY REGARDING THE NEEDS OF OUR PEOPLE AND GOVERNMENT FOR FISCAL YEAR 1986.

PRIOR TO MY DISCUSSION OF SPECIFIC ITEMS I WOULD LIKE TO OUTLINE CERTAIN BROAD POLICY ISSUES. WE ARE AWARE OF THE FISCAL CONCERNS RECENTLY RAISED BY THE ADMINISTRATION AS WELL AS CONGRESS. IN OUR OWN WAY, WE ARE RESPONDING TO THOSE CONCERNS BY ATTEMPTING TO TRIM EXCESS SPENDING. WE HAVE INTRODUCED MEASURES IN OUR LEGISLATURE WHICH ATTEMPT TO NOT ONLY CURB GOVERNMENT SPENDING BUT TO DEVELOP THE CAPABILITY OF OUR PRIVATE SECTOR. AS A RESULT WE HOPE TO BE ON A MORE DIRECT PATH TO ECONOMIC SELF-SUFFICIENCY. I MUST EMPHASIZE THAT WHILE WE ARE SENSITIVE TO U.S. CONGRESSIONAL CONCERNS WE HAVE TAKEN POSITIVE STEPS TO CURB GOVERNMENT SPENDING FOR THE GOOD OF OUR PEOPLE, AND OUR GOVERNMENT. WE HAVE REALIZED THAT UNCHECKED GOVERNMENT SPENDING CAN LEAD TO THE RUIN OF ANY GOVERNMENT. BUT I MUST POINT OUT WITH EQUAL EMPHASIS THAT OURS IS A GOVERNMENT WITH ONLY SEVEN YEARS OF EXPERIENCE. THE UNITED STATES GOVERNMENT HAS BEEN IN EXISTENCE FOR OVER TWO HUNDRED YEARS, AND YET THIS HAS JUST NOW BECOME AN ISSUE WHICH HAS CAUGHT NATIONAL ATTENTION AND WHICH THE ADMINISTRATION IS PREPARED TO ACT UPON. WE DO NOT MIND BEING HELD TO AN EVEN HIGHER STANDARD THAN THE U.S. FEDERAL GOVERNMENT BECAUSE AS I STATED EARLIER WE HAVE INDEPENDENTLY COME TO REALIZE THAT THIS IS GOOD FOR OUR GOVERNMENT.

I BRING THIS UP BECAUSE WE HAVE NOTICED A DISTINCT TENDENCY OF OUR GOVERNMENT TO BE CHASTISED LIKE A MISBEHAVING STEP-CHILD. WE ADMIT THAT WE HAVE MADE MISTAKES, ALTHOUGH SOME OF THESE MISTAKES BEGAN AS GENUINE CORRECTIVE MEASURES. HOWEVER, MY POINT TODAY IS THAT WE ARE TAKING POSITIVE STEPS TO IMPROVE THE FUTURE. FOR EXAMPLE, WE HAVE RECENTLY ELECTED DELEGATES TO A CONSTITUTIONAL CONVENTION TO AMEND OUR LOCAL

CONSTITUTION. A CONCEPTUAL PROPOSAL WHICH IS LIKELY TO BE DISCUSSED BY THOSE DELEGATES WILL BE THE IMPOSITION OF A CEILING ON THE LEGISLATIVE BUDGET. I INTRODUCED A JOINT RESOLUTION IN THE HOUSE OF REPRESENTATIVES RECOMMENDING THIS AMENDMENT TO OUR CONSTITUTION PRIOR TO THE ELECTION OF THESE NEW DELEGATES. SENATOR MANGLONA, WHO HAS ALSO TESTIFIED BEFORE YOU TODAY, HAS ALSO INTRODUCED A BILL TO ESTABLISH FISCAL AUSTERITY WITHIN THE LEGISLATURE. IN ADDITION, THE HOUSE OF REPRESENTATIVES HAS PASSED LEGISLATION TO PROHIBIT THE EXPENDITURE OF MORE THAN ONE QUARTER OF APPROPRIATED FUNDS DURING THE LAST QUARTER OF A LAME-DUCK LEGISLATURE. ALL THESE MEASURES EVIDENCE THE SINCERITY OF OUR EFFORTS TO ACHIEVE LEGISLATIVE BUDGET REFORM.

WE ALSO HAVE A RECENTLY ENACTED PUBLIC LAW WHICH WILL RESERVE ALL INTEREST EARNED BY THE MARIANA ISLANDS PUBLIC LAND TRUST EXCLUSIVELY FOR PROVIDING HEALTH CARE INCLUDING THE OPERATION OF THE NEW COMMONWEALTH HEALTH CENTER, WHICH UNTIL ITS PROSPECTIVE USE BY THE U.S. MILITARY, WILL BE A MAJOR FINANCIAL RESPONSIBILITY OF OUR GOVERNMENT. WE HAVE ALSO MADE CONSIDERABLE PROGRESS TOWARD SOLVING SOME CONCERNS WHICH HAVE BEEN CHRONIC FISCAL PROBLEMS. ONE OF THOSE IS POWER GENERATION AND DISTRIBUTION. THIS HAS BEEN A SERVICE WHICH HAS BEEN HEAVILY SUBSIDIZED BY THE GOVERNMENT. WE HAVE LEGISLATION PENDING ON THE GOVERNOR'S DESK WHICH WILL ESTABLISH A COMMONWEALTH UTILITY CORPORATION. THIS CORPORATION WILL HAVE AUTHORITY TO REGULATE UTILITY RATES AND ESTABLISH MORE EFFECTIVE COLLECTION PROCEDURES. IN ADDITION WITHIN THREE FISCAL YEARS FROM ITS CREATION THE CORPORATION WILL TURN OVER THE PRODUCTION, DISTRIBUTION AND BILLING FOR POWER TO A PRIVATE ENTITY.

SUPPORT OF ADMINISTRATION REQUESTS

THE LEGISLATURE IS IN SUPPORT OF OUR ADMINISTRATION'S REQUESTS FOR \$5.13 MILLION IN FUNDING FOR THE COMPLETION AND START-UP COSTS OF THE COMMONWEALTH HEALTH CENTER, THE \$6 MILLION

FOR THE IMPROVEMENT OF OUR WATER SUPPLY AND DISTRIBUTION SYSTEM, THE $10 MILLION FOR POWER GENERATION AND DISTRIBUTION, THE FUNDS FOR HARBOR DEVELOPMENT AND HIGHWAY IMPROVEMENT.

WHILE WE SUPPORT ALL THE AMOUNTS REQUESTED BY OUR EXECUTIVE BRANCH,THE AMOUNTS HIGHLIGHTED ARE ESSENTIAL IN OUR OPINION.

COMMONWEALTH DEVELOPMENT AUTHORITY

WE HAVE ALSO RECENTLY PASSED LEGISLATION, WHICH THE GOVERNOR IS EXPECTED TO SIGN SHORTLY CREATING THE COMMONWEALTH DEVELOPMENT AUTHORITY. THIS AUTHORITY WILL CONSIST OF A DEVELOPMENT BANK WHICH WILL FINANCE GOVERNMENT CAPITAL IMPROVEMENT PROJECTS, AND A DEVELOPMENT CORPORATION WHICH WILL ASSUME THE RESPONSIBILITIES AND PORTFOLIO OF THE ECONOMIC DEVELOPMENT LOAN FUND (EDLF).

THE NEW ROLE OF THE AUTHORITY CREATES A MORE DYNAMIC ENTITY THAT BETTER UTILIZES THE MONEY AVAILABLE AND EARMARKED FOR CAPITAL IMPROVEMENT PROJECTS AND WILL ALSO MORE AGGRESSIVELY PROMOTE AND STIMULATE LOCAL ECONOMIC DEVELOPMENT. FOR THIS REASON I ASK YOU NOT TO CUT OR DIVERT EDLF FUNDING. I MIGHT ADD PARENTHETICALLY THAT THE U.S. DEPARTMENT OF THE INTERIOR HAS HAD ITS OWN TECHNICAL EXPERTS EXAMINE OUR DEVELOPMENT AUTHORITY LEGISLATION AND THE ASSISTANT SECRETARY FOR TERRITORIAL AND INTERNATIONAL AFFAIRS CAN VERIFY THAT THEIR COMMENTS WERE HIGHLY LAUDATORY.

WAR CLAIMS

ANOTHER AREA IN WHICH I WOULD LIKE TO REQUEST YOUR ASSISTANCE IS THE MICRONESIAN WAR CLAIMS. THIS HAS BEEN A SUBJECT WHICH WE HAVE CALLED TO THE ATTENTION OF CONGRESS ON NUMEROUS PREVIOUS OCCASIONS.

IT IS A SUBJECT OF VERY REAL AND VALID CONCERN TO OUR PEOPLE. TO OUTLINE THE ISSUE: A U.S. APPOINTED WAR CLAIMS

COMMISSION ADJUDICATED THAT THE PEOPLE OF MICRONESIA WERE ENTITLED TO $34 MILLION IN DAMAGES AS A RESULT OF WORLD WAR II. THIS AMOUNT WAS TO BE PAID EQUALLY BY THE UNITED STATES AND JAPAN. $10 MILLION OF THIS DEBT HAS BEEN SATISFIED BUT $24 MILLION REMAINS AS AN OUTSTANDING OBLIGATION OF BOTH GOVERNMENTS. SUBSEQUENTLY, THE UNITED STATES UNILATERALLY EXCUSED JAPAN FROM THE PAYMENT OF ANY FURTHER WAR CLAIMS RESTITUTION. I WILL LEAVE TO HISTORIANS AND PERHAPS FUTURE MICRONESIANS AND AMERICANS TO DETERMINE WHETHER IT WAS APPROPRIATE FOR THE TRUSTEE OF THE UNITED NATIONS TRUSTEESHIP TO COMPROMISE THE CLAIMS OF THE BENEFICIARIES OF THE TRUST BY 50% WITHOUT ANY CONSULTATION WITH THE CLAIMANTS. UNDER THE LAW IN MOST U.S. JURISDICTIONS IT IS THE RIGHT OF THE INJURED PARTY TO RECOVER ITS TOTAL ADJUDICATED DAMAGES FROM EITHER PARTY WHEN THEY ARE JOINTLY LIABLE. IT IS THEN UP TO THE PARTY PAYING THE FULL AMOUNT OF DAMAGES TO SEEK A CONTRIBUTION FROM THE NON-PAYING PARTY. ON THE CONTRARY THE U.S. HAS DEVELOPED A COMPLICATED REQUIREMENT THAT THE AMOUNT OF JAPANESE AID TO MICRONESIA MUST BE TABULATED PRIOR TO PAYMENT BY THIS GOVERNMENT OF EVEN ONE HALF THE AMOUNT THAT IS OWED. THE PEOPLE OF MICRONESIA HAVE HAD TO WAIT FOR ALMOST 10 YEARS TO BE COMPENSATED. HOW CAN REASONABLE MEN POSSIBLY DIFFER THAT THIS IS A GREAT INJUSTICE? MANY OF THE PEOPLE WHO SUFFERED WILL NEVER REALIZE ANY COMPENSATION BECAUSE THEY ARE NO LONGER LIVING.

FURTHERMORE, WE ALL KNOW THAT 1985 DOLLARS BEAR NO REASONABLE RELATIONSHIP TO THE VALUE OF $24.10 MILLION IN 1975-76 WHEN THE WAR CLAIMS COMMISSION AWARDED IT TO THE MICRONESIAN PEOPLES. WE APPRECIATE THAT CONGRESS HAS SYMPATHIZED WITH OUR PLIGHT AND LAST YEAR EVEN INCLUDED LANGUAGE TO THAT EFFECT IN THE COMMITTEE'S ON INTERIOR AND INSULAR AFFAIRS REPORT TO THE BUDGET COMMITTEE OF THE HOUSE . (SEE VIEWS AND ESTIMATES ON THE BUDGET PROPOSED FOR FISCAL YEAR 1985, COMMITTEE PRINT NO. 6, MARCH 15, 1984 AT P. 69.)

WE ARE ALSO AWARE THAT THE RESPONSIBLE AGENCY IS THE INTERIOR DEPARTMENT AND WE HAVE ATTEMPTED TO IMPRESS UPON THE SECRETARY THE PAST DUE URGENCY OF THIS MATTER. YET, THROUGH UNOFFICIAL CHANNELS WE HAVE RECEIVED INFORMATION THAT THE AMOUNT OF JAPANESE CONTRIBUTIONS IS STILL BEING TABULATED. THIS RESPONSE HAS BEEN RECEIVED SINCE NOVEMBER, 1984.

LET ME PROPOSE THAT THE TIME FOR SYMPATHY AND BUREAUCRATIC DELAYS IS PAST AND NOW IS THE TIME FOR THIS HONORABLE BODY TO TAKE AFFIRMATIVE ACTION TO RESOLVE THIS DILEMMA. THE TERMINATION OF THE TRUSTEESHIP MAY BE UPON US IN 1986, IF THINGS GO AS ANTICIPATED BY THE UNITED STATES. HOWEVER, THE UNITED NATIONS TRUSTEESHIP COUNCIL HAS ALSO EXPRESSED CONCERN THAT WE ARE GOING TO ATTEMPT TERMINATION OF THE TRUSTEESHIP AGREEMENT PRIOR TO THE PAYMENT OF THESE WAR CLAIMS. (SEE REPORT OF THE TRUSTEESHIP COUNCIL TO THE SECURITY COUNCIL ON THE TRUST TERRITORY OF THE PACIFIC ISLANDS, 29 NOVEMBER 83 TO 18 JULY 84, S/16738 AT P. 41.) I HOPE THAT MY SINCERE AND EARNEST PLEA TODAY WILL NOT ALLOW YOU TO DISREGARD THIS VITAL ISSUE AND TO UNDERSCORE THAT THE RESOLUTION OF THIS PROBLEM WILL REQUIRE MORE THAN SYMPATHETIC MENTION IN A COMMITTEE REPORT OF THIS CONGRESS.

CONCLUSION

AS YOU KNOW WE ARE ENGAGED IN NEGOTIATIONS WITH ASSISTANT SECRETARY RICHARD T. MONTOYA AS THE PRESIDENT'S SPECIAL REPRESENTATIVE TO ESTABLISH A NEW PERIOD OF MULTI-YEAR FINANCIAL ASSISTANCE AS CONTEMPLATED UNDER OUR COVENANT. OUR NEGOTIATIONS ARE NOT AT A STAGE WHERE WE CAN REPORT EITHER AGREEMENTS OR DISAGREEMENTS. I SHOULD POINT OUT, HOWEVER, THAT THE LEGISLATION AND LAWS I HAVE OUTLINED ABOVE ARE AN ATTEMPT TO ACHIEVE A GREATER DEGREE OF FISCAL SELF-SUFFICIENCY AND OUR NEGOTIATIONS ARE BEING CONDUCTED WITH THAT GOAL IN MIND.

FOR THE FIRST TIME IN MANY YEARS THAT WE HAVE BEEN APPEARING BEFORE THE U.S. CONGRESS WITH OUR HANDS OPEN AND WAVING BEFORE YOU THE PROMISE OF ECONOMIC SELF-SUFFICIENCY, WE NOW HAVE SOMETHING TO OFFER IN SUPPORT OF THAT PROMISE. WE OFFER TANGIBLE PROOF THAT WE ARE MAKING AN EFFORT TO SHAPE OUR FUTURE AS A FISCALLY MATURE NEW GOVERNMENT AND WE WILL SUBSEQUENTLY TAKE PRIDE IN OUR REAL ABILITY TO FINANCE OUR SELF-GOVERNMENT WE WISH TO THANK THE MEMBERS OF CONGRESS AND THE AMERICAN PEOPLE THEY REPRESENT FOR THE ASSISTANCE RENDERED TO OUR PEOPLE AND GOVERNMENT IN THE PAST.

WE WILL BE HAPPY TO PROVIDE THE COMMITTEE OR MEMBERS OF ITS STAFF WITH COPIES OF ANY OF THE DOCUMENTS I HAVE MENTIONED, UPON REQUEST.

SUMMARY STATEMENT OF PEDRO TENORIO

Lieutenant Governor TENORIO. Thank you, Mr. Chairman.

Just so that we are following tradition, the people that you see in front of you are representing the Commonwealth of the Northern Mariana Islands, America's newest territory, and we are very happy to be invited to testify on the fiscal year 1986 budget.

Gov. Pedro Tenorio and also our people extend their most grateful appreciation for this opportunity today.

I have with me three members of our legislature, Senator Manglona, Congressman Juan Guerrero, and Congressman Gregorio Sablan.

I have summarized my statement in the interest of time and wish to only highlight those most important budget items.

Mr. Chairman, we have made dramatic strides since enactment of the covenant, which I know you were very much involved in, and in support of. Since that enactment and inauguration of a constitutional government 7 years ago, for example, we have increased our local revenues from $5 million in 1978 to $29 million last year. This is over 60 percent of our government operations cost.

TOURISM

Our tourist industry continues to display steady and encouraging growth. Visitors to our islands have increased from 91,000 in 1978 to a projected 145,000 this year. In 1978, hotel rooms numbered 740, and we are currently constructing close to 1,000 rooms, which will make the total rooms about 1,700.

WATER AND POWER

Our power, water, and sewer systems have also undergone substantial expansion, new construction, and rehabilitation. Last fiscal year, the Congress appropriated $1.9 million for improvements to Saipan's outdated and defective water system. I want to inform the committee that these over-ceiling requests are providing an excellent beginning in the improvement of public water supply, which will result in a water system that will meet levels of U.S. Public Health drinking water standards.

In addition, the Environmental Protection Agency [EPA] of the U.S. Government has been very helpful in providing matching funds for improvements to our waste water treatment facilities. We are working closely with EPA's region 9 office to develop plans for a Comprehensive Waste Water Treatment Program and improve management and monitoring of drinking water quality.

HEALTH CENTER

Mr. Chairman, we are requesting additional funds this year to complete the new hospital and for personnel training and startup costs. We are also seeking funds to continue to upgrade our water system.

The administration is proposing an appropriation of $2.8 million this year, in 1986, but our most conservative estimate is for $6 million, which will fund projects we believe will provide the proper growth and continuity of ongoing water projects that are responsive to social and economic development demands.

COVENANT FUNDING

Mr. Chairman, we cannot yet rely entirely on local revenue resources to pay for all our expense of running our government, the development of our economic base, and the improvement in our standard of living anticipated by the covenant.

We are now in the midst of discussions with Assistant Secretary Montoya, President Reagan's special representative, aimed at reaching a joint recommendation to the Congress for future multiyear covenant financial assistance to the Commonwealth.

I am pleased to report that we have had several productive discussions with Mr. Montoya, and I am hopeful that following additional talks we will reach a joint recommendation which we will provide to the committee and we hope would provide a solid foundation for accelerated social and economic development in the Commonwealth.

We will continue to keep the Congress apprised of the status of these discussions and hope that the Congress will look favorably to any resulting joint recommendations.

We support the fiscal year 1986 budget for the Commonwealth submitted by the Department of the Interior, as consistent with the provisions of section 704 of the covenant. Detailed breakdowns of how we propose to expend covenant moneys are provided in the budget schedule which accompanies my detailed statement.

NEW INITIATIVES

At this point, Mr. Chairman, I would like to take a moment to acquaint the committee with a few of the initiatives that we have been undertaking in an effort to reduce the cost of government operations, to raise additional operating revenues locally, and to rationalize and accelerate our economic development.

Our legislature has reduced its fiscal year 1986 budget by over 40 percent from 1985 and has recently enacted a measure establishing the Commonwealth Utility Commission, an independent body which will establish realistic consumer utility rates and thus reduce the operating deficit.

In addition, the legislature recently passed the Commonwealth Development Authority Act, establishing the successor agency to the economic development loan fund. The development authority represents an important step in our efforts to rationalize strategic economic planning and development within the Commonwealth. The new act provides the authority with financing authority which will enable it to use public financing devices such as tax exempt revenue bonds.

Our budget presentation provides a detailed status report of ongoing projects in the Commonwealth, including construction of the health center project and operational and starting plans, plans for power generation and distribution, and progress in water management and related areas.

ADDITIONAL FUNDING REQUESTS

We are also requesting an appropriation of $7 million, representing the balance of the authorization of Public Law 95-348 for additional power generating capability for Saipan and Rota powerplants and for distribution and transmission systems for the islands of Saipan, Tinian and Rota.

Another matter of continuing concern to our people, Mr. Chairman is the settlement of World War II claims. We understand what has been going on with this particular matter, and we would just like the Congress to reassess the authorizing legislation on this issue and provide a realistic solution in making available the funds for compensating claims already adjudicated for title I by the federally enacted Micronesian War Claims Commission.

Since 1968, the Trust Territory of the Pacific Islands has administered the trust territory's social security retirement fund. This program provided retirement benefits to hundreds of employees of the Trust Territory Government and the U.S. Navy. Historically, these benefits have been paid out of congressional appropriations to the trust territory. Approximately $50 million is necessary to finance the Trust Territory Prior Service Benefits Program for the future.

In addition to my prepared statement on this subject, I offer for the record a memorandum with options for future funding of prior service benefits, which was prepared by Robert Myers, consulting actuary to the trust territory's social security.

This memorandum expands upon Mr. Myers' testimony before the Subcommittee on Public Lands and National Parks of the House Committee on Interior and Insular Affairs on February 7, 1984.

In closing, Mr. Chairman, while we recognize that the national mood is to decrease spending in order to reduce the Federal deficits, we in the Northern Marianas, America's newest Commonwealth, are still struggling to develop our islands' infrastructure, to provide basic services to our communities, and to encourage development that will provide the tax base for local revenue.

We are asking, in essence, for minimum financial assistance, which will gradually elevate our standard of living closer to the standard typical of a small American community.

We want to thank you for the opportunity to speak before you, and we are happy to answer questions, Mr. Chairman.

Senator JOHNSTON. Thank you very much, Governor. We have a vote on the floor so I'm going to have to go over there. I'll be back as soon as I can. Let me tell all the other witnesses we are going to have to greatly decrease the amount of time. I'm sorry. We just don't have the time we would like this afternoon to go fully into all the issues with each witness. So if witnesses would be thinking of just the one or two most salient points, when we get back, then we'll be able to hear all the witnesses. Otherwise, I'm afraid we'll run out of time without being able to hear them all.

I'll be back as soon as I can. Thank you.

[A brief recess was taken.]

Federated States of Micronesia

STATEMENT OF HON. BAILEY OLTER, VICE PRESIDENT

ACCOMPANIED BY:

RAYMOND SETIK, CHAIRMAN, WAYS AND MEANS; AND BUDGET OFFICER FOR THE CONGRESS FROM OUR SENATE

DEL PANGELINAN, BUDGET OFFICER AND ADMINISTRATOR, OFFICE OF PLANNING AND STATISTICS

PREPARED STATEMENTS

Senator JOHNSTON. Our next witness is the vice president of the Federated States of Micronesia, Bailey Olter.

Mr. Olter, welcome to the subcommittee.

The full statement, of course, will be put into the record.

[The statements follow:]

STATEMENT OF BAILEY OLTER

I am Bailey Olter, Vice President of the Federated States of Micronesia. With me are, Senator Raymond Setik, Chairman of the Ways and Means Committee of the Congress of the Federated States of Micronesia, who also has a prepared statement to present to this Committee; the National Government Budget Officer, Mr. Del Pangelinan; and Mr. Thomas Bussanich, the Congress Budget Officer. I ask your permission for the Budget Officers to assist Senator Setik and me in answering any questions you may have.

On behalf of the Government of the Federated States of Micronesia, I thank you for this opportunity to present our budget request for the 1986 fiscal year.

Mr. Chairman, before I proceed with my testimony, I would like to say that our government and our people are very pleased with the progress made in Congress to approve the Compact of Free Association. The FSM fully supports approval of the Compact as soon as possible and its implementation by or before the beginning of FY 1986.

Mr. Chairman, there are a number of matters relevant to the process of transition into free association which are not addressed in the Administration's FY 1986 budget request, and for which we seek your support in their resolution. Most of these matters have been discussed with the Administration and with the Congress over a number of years. They include topics such as the long- standing U.S. promise to establish a permanent national capital for the Federated States, funding for the College of Micronesia, appropriation of Title I war claims compensation, establishment of a prior service benefits trust fund, and indefinite land use compensation. We ask this Congress to help resolve these matters either by appropriating funding in FY 1986 or by making a firm commitment to appropriate the necessary funding in the future. Timely fulfillment of these obligations is essential to the achievement of the goals forming the foundations of our free association relationship with the United States.

I would like to make special mention of two of these important matters; the new national capital facilities and the new campus for the Community College of Micronesia. As you know, for some time, planning for these essential projects has been coordinated in order to maximize utilization of limited funds. With the initial appropriations for the national capital, we have completed the architectural and design work for the two facilities and have initiated the construction bid process so that bids for the Capital will be opened on May 31 of this year.

In 1982 the Administration made a firm commitment to provide $15.5 million for the FSM National Capital relocation. Since then we have received $2.056 for A&E and $3.920 for construction, leaving $9.524 million to be appropriated on this commitment. Accordingly, we are somewhat distressed to learn that the Administration chose not to include additional construction funds in its request. The House Committee on Interior and Insular Affairs' recommendation to appropriate the remaining funds is, of course, reassuring. We hope this Subcommittee will adopt a similar position.

I would like to mention, as we have done previously, that the minimum cost estimated for an operational national capital is $21.6 million. Once again we request that the United States make a commitment to fund the full amount. Although appropriation of the present level of commitment will allow the construction of our basic capital structure, it will fall $6.1 million short of the costs of constructing the necessary infrastructure, access roads, and other governmental buildings. It must be noted that this infrastructure will serve not only the capital, but will enable the presently undeveloped area of Palikir to develop to serve the residential and commercial needs of some 3,000 persons in the area.

The estimated cost for replacing the existing deteriorated and inadequate facilities of the Community College of Micronesia in Pohnpei is $12.0 million. I would like to ask that the Committee seriously consider the need for a new Community College of Micronesia campus and provide support for this priority project which is critically important to manpower development in the Federated States of Micronesia. The FSM also supports additional funding for the transfer of the College of Micronesia's Nursing School to the Republic of the Marshall Islands, and the renovation of the Micronesian Occupational College in the Republic of Palau.

Mr. Chairman, there is another matter of importance relating to the College. We understand that the Department of the Interior budget request includes only $300,000 for the College's operations, compared to last year's level of $1.6 million. This amount is apparently intended to cover Palau's contribution to the College's operations, but not the components of college support attributed to the FSM and the Marshall Islands. While the FSM, Palau and the Marshall Islands have agreed that the College should be maintained as a unified post-secondary institution serving all three entities and are continuing negotiations on operational cost-sharing arrangements, the final arrangements on cost-sharing have not been determined. We ask that Department of the Interior operational assistance for the College continue on at least a transitional basis until these arrangements can can be finalized. In any event, $300,000 as Palau's share is totally inadequate.

Mr. Chairman, we are also requesting funds in Fiscal Year 1986 to help control communicable disease in the FSM. This money will be used to fight cholera, leprosy and other contagious diseases. Although the cholera epidemic has officially ended, a recurrence of cholera could easily take place. We are also battling leprosy in the FSM which is now at an epidemic level.

If the FSM is to grow and prosper after the trusteeship ends, it must be able to attract businesses and tourists to the islands. Without decent sanitary conditions and more effective control of communicable diseases, it will be virtually impossible for the FSM to attain this goal. We trust this Committee realizes that good health and economic development go hand in hand and that you will act favorably on this request by appropriating $2.0 million as recommended by the Committee on Interior and Insular Affairs in their report of March 15, 1985.

We continue to maintain, as we have throughout the years, that the original five-year CIP program should be fully implemented. We firmly believe that CIP projects within this program should be turned over to the Federated States in a fully functional condition that will not cripple the capability of our new nation to develop economically because of the staggering costs associated with the maintenance of the partially completed infrastructure now existent in our islands. Compact funding in the capital account is designed to finance vitally important economic development programs and other essential CIP projects. If we are to attain our goal of self-reliance in the short fifteen years of the Compact, we cannot afford to divert these funds towards the completion of CIP projects which lay within the context of the five-year CIP program that was originally intended to meet the basic infrastructure needs of our islands. Thus we seek your support in continuing to address our basic infrastructure needs, both now and in the initial years of the Compact. These needs include the completion of permanent and reliable road and transportation systems, durable and adequate air and sea ports, safe and continuous water service, sanitary and reliable sewerage systems, and consistent and reliable electrical distribution systems. Also of acute need is the restoration and repair of basic public facilities, such as schools and hospitals, which have badly deteriorated due to the lack of adequate maintenance funds. Mr. Chairman, we will be submitting for the record a list and description of those CIP deficiencies which we sincerely believe remain as unfulfilled trusteeship obligations.

At this point, however, we are confronted with certain deficiencies in our basic infrastructure which we feel demand immediate address. These include a sinking dock, incomplete roads, empty water tanks, and electrical distribution systems inadequate to realize the full potential of the new generating plants that the United States Government has so generously provided for us. To meet these immediate requirements, we are requesting the Congress to appropriate for the following CIP projects:

1.	Electrical Upgrading	$3.050 million
2.	Water System	1.800 million
3.	Dock	.150 million
4.	Roads	6.300 million
	TOTAL	$11.300 million

A. Electrical Upgrading

(1) Pohnpei Distribution System . . . . $2.300 million

The acquisition and installation of 4 Alco generators will increase the generation capacity to 13 megawatts, thus allowing the distribution system to be extended around the island of Pohnpei. These generators are expected to be on line at the end of 1985. The new generating capacity will be sufficient to meet the present needs of almost all of the 23,000 people residing on Pohnpei proper. Funds currently available, however, are not sufficient to extend the rural distribution system to the people in their homes and villages around the island. This request is needed to allow primary as well as secondary distribution line extension to the rural areas. Nearly 25 miles of distribution are planned at an estimated cost of $80,000 per mile.

Additionally, the construction of the FSM Capital in the Palikir area of Pohnpei will create increased development activities within the area. Part of the funds requested here will expand power distribution within the Palikir area including distribution within the Capital area itself.

A total of $2.300 million is requested to accomplish the above tasks.

(2) Truk Distribution System . . . . . $ .450 million

The current system has both 4.16 KV feeders and 13.8 KV feeders. The use of two separate distribution voltages in such a small geographical area is not consistent with good design practice. The entire system should be converted to 13.8 KV in order to standardize equipment and to eliminate separate switch gear and sub-station equipment. Included in this conversion will be an upgrading of poles, switches and transformers.

(3) Yap Distribution System . . . . . $ .300 million

The power station at Yap has 2 ea. 750 KW generators and 2 ea. 800 KW Caterpillar generators. Two additional 2000 KW Alco generators will be added by the end of this year bringing the total State generating capacity to 7,100 KW. Like Truk, there are two separate voltage systems requiring separate inventories of hardware.

The funds are needed to change the distribution system to 13.8 KV to standardize equipment.

B. Water System

(1) Truk Wichen Water System . . . . . $1.8 million

This project was first proposed in 1967 with design of the intake and treatment facilities being completed in the late 1970's. Construction was to have begun under the CIP program in the early 1980's but land acquisition problems halted the planned construction.

The project would include construction of intake and treatment facilities on the Wichen River. The treated water would connect into the Moen Island water system through a new 12" water transmission line. Line length is estimated at 9000 feet.

The existing shallow wells on Truk and a 90 acre rainwater catchment at the head of Pou Stream do not provide enough water during the dry season of the year. Truk State is continually on water hours or other forms of rationing. The Wichen River intake volume would more than double the water supply now available. Tests in drought conditions have shown that this source of water has not dried up, as have the wells.

This project should take approximately 20 months from design modification to the completion of construction.

C. Dock

(1) Yap Dock . . . . $ .150 million

The 450 ft. x 125 ft. dock provides Yap State with an up-to-date facility. This facility, however, is experiencing serious problems. An area between the dock and the warehouse, approximately 150 ft. long, is settling. The concrete slab was designed to slope toward the dock; however, water is ponding which indicates settling of the underlying material.

An estimated $.150 will be needed for piling or concrete work to correct the deficiency.

D. Roads

(1) Pohnpei Roads . . . . $2.8 million

Pohnpei State, with past appropriations including the $1.9 million in FY 1985, will be able to complete the almost 60 miles of circumferential road around Pohnpei proper and to provide substantial improvement to the present coral top road. To preserve the substantial investment that has been put into this road and to reduce significantly the annual cost of maintenance due to the erosive impact of tropical rainfall on the island, it is necessary to begin the process of permanent pavement of the circumferential road as soon as possible.

The paving project will include upgrading of the section of the road from where the previous paving program ends and extend about 5 miles toward the western part of the island.

(2) Kosrae Paving . . . . $3.5 million

With the paving of the airport and the construction of major fuel/warehouse facilities at that site, the need to pave approximately 7.5 miles of road from the airport area into the Lela/Tofol population centers becomes critical.

This past year Congressional funding towards the project amounted to $1,500,000. Design of the paving project is now underway. The project will be ready for bidding by late summer '85 if adequate funds are available. Initial cost projections from a design firm indicate a project cost of approximately $5 million.

A contractor has been selected and is now mobilized for the airport paving. This should assist Kosrae State in obtaining very competitive bids for the road paving since a contractor with this capability is already on the island. Thus, it is important to proceed without delay to the bidding stage. The requested funds, in addition to those which have already been made available, will allow Kosrae State to substantially complete this much needed work.

We are also quite concerned that U.S. government agencies have, in anticipation of Compact approval, deprogrammed funds previously earmarked for federal programs in the FSM. As you may know, the Senate Committee on Energy and Natural Resources, in reporting the joint resolution providing for the approval of the Compact, provided for continuation of the Public Health Service, Farmers Home Administration, and Legal Services programs, and for the continuation of other programs for a transition period of up to three years. We are hopeful that the House Committees considering the Compact will do likewise. We are sure that this Committee is aware of the serious jolt we would suffer both to our essential services and our economy should federal programs not be phased out gradually.

We also request continuation of the operations and maintenance program should the Compact not be approved. This program has been invaluable in the past in meeting some of the most critical maintenance needs of the nation's infrastructure.

We strongly recommend that the Department of the Interior request for technical assistance to insular areas be restored to $4.9 million and that specific authorization to provide assistance to FSM be made. We ask this regardless of whether the Compact is approved or not, because of our needs for continued technical assistance.

To illustrate our technical assistance needs, we must point out the disappointing results to date of the U.S. funded computer accounting system that has been put into place in all states of the FSM. This system, which was billed as an easy to use computer package, has thus far generated little if any useful financial information since beginning operation in October 1983. The State most successful in using the computer has in fact discarded much of the computer software, relying instead upon manual systems.

The responsibility for this failure is admittedly a shared one. On the FSM's part, the President has used FSM operational funds to hire a highly qualified consultant to stabilize FSM's accounting and to improve internal management. It is now up to the Department of the Interior to embrace its responsibility to re-assess its personnel and the approach used to implement the system.

Our observations, which have been confirmed by our independent auditors and independent consultants are thus: the computer software was not properly tested before it was installed; training has been inadequate; documentation provided by the software vendor did not describe the system; documentation describing procedures necessary to run the system did not exist as the time of the installation; and technical assistance has been inadequate and has focused primarily on de-bugging the system rather than on training how to use it.

As a result, we have a system that our people can not use and that seems to have made us a guinea pig for software development. It is clear that the current approach and management of the on-going computer system is inadequate to develop a viable and useful computerized financial management system. The program needs to be completely re-assessed.

The FSM is wholly committed to financial management. We are prepared to expend even more of our limited resources to improve this system and correct our own internal deficiencies. However, we feel that the United States, which has already spent over $2 million on this project in the FSM, bears an equal responsibility to rectify this disturbing situation.

In summary, Mr. Chairman, the Federated States of Micronesia looks forward to approval of the Compact early in this session of the Congress. With implementation of the Compact, we can realistically begin to focus on much needed economic development and ultimately achieve increased economic self-reliance. We urge the Congress to enact an FY 1986 budget which addresses not only Compact-level funding requirements but also outstanding U.S. Government trusteeship obligations and transitional needs for successful implementation of the Compact as well.

STATEMENT OF RAYMOND SETIK

I am Raymond Setik, Chairman of the Committee on Ways and Means of the Congress of the Federated States of Micronesia. I appreciate this opportunity to appear before the Subcommittee, on behalf of the Speaker and other members of the FSM Congress, to support the views of the FSM Executive Branch on the Fiscal Year 1986 budget and the other matters presented to you.

I wish to highlight the concerns of the FSM Congress. We continue to support the often made assertion that certain Trusteeship obligations must be satisfied before or soon after the implementation of the Compact of Free Association. We are especially concerned with the fate of the College of Micronesia, the prior service benefits program, outstanding Micronesian war claims, and outstanding payments for indefinite land use. As the Compact nears approval, the eleventh hour has arrived for resolution of these transition issues.

Unlike the past, the Administration's budget contains no Prior Service funding for the FSM for FY 1986 and they do not support any funding for this program into the Compact period. Therefore, to avoid any hardship to the approximately 400 families currently depending on monthly Prior Service benefits, we need to resolve the issue now.

The War Claims issue has been outstanding for years. Although Title II claims have been paid, in excess of $24 million is due to Trust Territory residents under Title I. Our government has come under increasing pressure from our citizens to resolve this issue. We believe the requirements of the War Claims Act necessary to pay the additional sum have been met. We wish to see this matter ended.

On indefinite land use, while the U.S. Government has paid compensation of the indefinite land use payments for the period prior to 1981, there is still more than $2 million in outstanding use payments related to that period. We urge this Committee to complete this commitment in Fiscal Year 1986.

As a final point, I wish to remind this Committee of the U.S. commitment to fund construction of the FSM capital. In our view, fulfillment of this long-standing commitment means a total facility, complete with necessary infrastructure and essential facilities.

I thank the Subcommittee for its attention this morning.

SUMMARY STATEMENT OF VICE PRESIDENT BAILEY OLTER

Mr. OLTER. Thank you, Mr. Chairman. With me are, of course, old-timer, chairman of ways and means of our Congress, Mr. Raymond Setik, and the budget officer for the Congress from our Senate. And on my right are budget officer, Mr. Del Pangelinan, and our administrator of our Office of Planning and Statistics.

Mr. OLTER. Mr. Chairman, and I look at the possibility that this may be our last hearing as islands under the trusteeship agreement, I would like to very briefly summarize and put ourselves in perspective. We remember in 1945, we were secured from the Japanese by U.S. forces. In 1947, the United States negotiated a strategic trust agreement for our islands, of course,' without representation from our islands. We were kind of adopted under that system.

Because of the nature of the strategic trust, our islands were kind of forfeited from vistors and we were kind of locked into the island. We were then referred to by the anthropologists as the Suderi. There was no development because of the way we were structured, or our islands were structured, until 1961, during Kennedy's administration, when progress seemed to start.

In 1965, our Congress of Micronesia was created. And, in 1959 to 1982, our representatives along with the U.S. representatives started the negotiation on what is called a free association compact, which was completed in 1982. Under this, we hope that fights by our friends from the Flag Territories over some privileges extended to our islands under the compact will not frustrate our effort to develop our islands toward self-reliance.

Under the compact of free association, we hope to develop our economy and other institutions so that we will be more self-sufficient.

Before turning to my summary of the statement submitted, Mr. Chairman, we fully support the approval of the compact of free association as soon as possible. There are, however, a number of matters relating to the process of transition into the free association which have not been addressed in the administration's fiscal year 1986 budget request.

TRANSITION ISSUES

These include funding for construction of basic national capital facilities, funding to replace the deteriorated and inadequate facilities of the Community College of Micronesia, funding for a prior-service benefit trust fund, payment of outstanding indefinite land use claims, and payment of title I war claims, and completion of the basic infrastructure projects promised by the administering authority, with correction of deficiencies and a turnover of the infrastructure in working condition.

Mr. Chairman, we consider timely resolution of these matters as essential to the achievement of the course of our future relationship with the United States. These matters were not addressed in the compact negotiations on the assumption that the U.S. government would resolve these matters before the compact period.

We cannot, and should not, be expected to divert capital account funding to fulfillment of these longstanding U.S. trusteeship obligations and commitments. Otherwise, one of the main goals of free association, to begin development of our economic thoughts of self-sufficiency may not happen.

Mr. Chairman, as you know, we are also asking for a transition period with respect to Federal programs in order to assure a smooth and orderly phaseout of these programs. Continuation of technical assistance grants, at least during the early years of free association, and finally, continuation of operating plans for the College of Micronesia under the three Micronesian governments are in a position to reach agreement on future cost-sharing arrangements.

Thank you for the opportunity to present our views. We hope this committee will support our request.

Senator JOHNSTON. Thank you very much, Mr. Vice President.

Gentlemen, does anyone want to add to the vice president's statement?

Senator SETIK. Yes; Mr. Chairman, I have a very short statement.

SUMMARY STATEMENT OF SENATOR RAYMOND SETIK

Senator SETIK. I appreciate this opportunity to appear before your committee on behalf of the speaker and the other members of the Congress to support the views of the executive branch on the fiscal 1986 budget, and also other matters as presented.

I wish to again thank you for giving me the time.

Senator JOHNSTON. Thank you, Mr. Setik.

Mr. Pangelinan, did you have anything to say?

Mr. PANGELINAN. No, sir.

Senator JOHNSTON. Well, gentlemen, we will very carefully consider your request, keeping in mind, as I mentioned before, the budget restraints of the country.

We want to wish you well in the new free association compact. We hope all goes well and we will be watching with interest and we will try to do our part to make everything work just as well as we hope it will.

Thank you very much, Mr. Vice President, and gentlemen, bon voyage to you.

ALL. Thank you.

REPUBLIC OF PALAU

STATEMENT OF HON. HARUO WILLTER, MINISTER OF ADMINISTRATION

ACCOMPANIED BY:

SANTOS OLIKONG, SPEAKER OF THE HOUSE OF DELEGATES, NATIONAL CONGRESS OF PALAU
MINAMI UEKI, HOUSE OF REPRESENTATIVES OF PALAU
GEORGE NGIRARSAOL, VICE PRESIDENT OF THE SENATE
SENATOR THOMAS REMENGESAU, CHAIRMAN, WAYS AND MEANS COMMITTEE FOR THE SENATE

INTRODUCTION OF ASSOCIATES

Senator JOHNSTON. Next, from Palau, Mr. Haruo Willter.

Go ahead, Mr. Willter.

Mr. WILLTER. Mr. Chairman, I am honored to appear before this committee once again to testify on behalf of the Government of the Republic of Palau in support of our budget requirements for fiscal year 1986. Before I begin, I would like to introduce people who came with me to support this testimony.

To my left, immediate left, is Santos Olikong, speaker of the house of delegates for the National Congress of Palau. Next to him is Minami Ueki of the house of representatives of Palau. To my right is vice president of the Senate, George Ngirarsaol. And next to him is Senator Thomas Remengesau, chairman of the ways and means committee for the Senate.

SUMMARY STATEMENT OF HARUO WILLTER

Mr. Chairman, I would like to begin my testimony first thanking your committee for supporting those appropriation requests which were made to the Congress in prior fiscal years. My testimony today will concentrate on justifying those appropriation requests which were submitted to this Congress during prior fiscal years and still remain unfunded.

The requests that I speak of are those requests for power, sewer, water, roads, and health facilities, which remain of the highest priority to the Republic of Palau. These are requests which are essential to Palau advancement.

Since the inception of the constitutional government in 1981, we have continually asked the U.S. Government for assistance in establishing a basic infrastructure of public utilities and facilities which are absolutely essential for Palau to go forward with meaningful economic and human development. The assistance provided to date has been very gratefully received, but still remains far below the level of assistance requested to establish a realistic economic infrastructure upon which to base our future economic development.

PREPARED STATEMENT

I have submitted for the record the full text of my testimony with the sum of receipts, and the request for these funds.

We would like very much to request that this should be funded before we get to the compact funding. I would like, Mr. Chairman, in order to save time, to stop at this point and be ready to answer any questions regarding the hearings.

[The statement follows:]

STATEMENT OF HARUO WILLTER

MR. CHAIRMAN AND DISTINGUISHED MEMBERS OF THE COMMITTEE, I AM HONORED TO APPEAR BEFORE THIS COMMITTEE ONCE AGAIN TO TESTIFY ON BEHALF OF THE GOVERNMENT OF THE REPUBLIC OF PALAU, IN SUPPORT OF OUR BUDGET REQUIREMENTS FOR FISCAL YEAR 1986.

WITH YOUR PERMISSION, BEFORE I BEGIN MY TESTIMONY, I WOULD LIKE TO SUBMIT FOR THE RECORD, THE NAMES OF THE PALAU DELEGATION TO THESE CONGRESSIONAL HEARINGS.

MR. CHAIRMAN, I WOULD LIKE TO BEGIN MY TESTIMONY BY FIRST THANKING YOUR COMMITTEE FOR SUPPORTING THOSE APPROPRIATIONS REQUESTS WHICH WE HAVE MADE TO THE CONGRESS IN PRIOR FISCAL YEARS. MY TESTIMONY TODAY WILL CONCENTRATE ON JUSTIFYING THOSE APPROPRIATIONS REQUESTS WHICH WERE SUBMITTED TO THIS CONGRESS DURING PRIOR FISCAL YEARS, AND STILL REMAIN UNFUNDED. THE REQUESTS THAT I SPEAK OF ARE THOSE REQUESTS WHICH REMAIN OF THE HIGHEST PRIORITY TO THE REPUBLIC OF PALAU. THESE ARE REQUESTS WHICH ARE ESSENTIAL TO PALAU'S ADVANCEMENT.

MR. CHAIRMAN, THE REPUBLIC OF PALAU IS STILL, TO THIS DAY, CONSIDERED A PART OF THE TRUST TERRITORY OF THE PACIFIC ISLANDS. THOUSANDS OF DOLLARS AND YEARS OF EFFORT HAVE BEEN EXPENDED BY THE GOVERNMENTS OF THE UNITED STATES OF AMERICA AND THE REPUBLIC OF PALAU IN NEGOTIATING A COMPACT OF FREE ASSOCIATION WHICH WILL SERVE AS THE BASIS FOR FUTURE POLITICAL RELATIONSHIPS BETWEEN OUR TWO COUNTRIES. THE PEOPLE OF PALAU HAVE APPROVED THIS COMPACT OF FREE ASSOCIATION WITH THE UNITED STATES. HOWEVER, OUR COMPACT HAS YET TO COME BEFORE THIS CONGRESS FOR YOUR CONSIDERATION. UNTIL SUCH TIME AS OUR COMPACT DOES COME INTO EFFECT, PALAU REMAINS A WARD OF THE UNITED STATES.

AS ADMINISTERING AUTHORITY OF THE TRUST TERRITORY OF THE PACIFIC ISLANDS, THE UNITED STATES HAS PROMISED THE PEOPLE OF PALAU, THE WORLD COMMUNITY AND THE UNITED NATIONS THAT IT WOULD FOSTER ECONOMIC, SOCIAL AND POLITICAL DEVELOPMENT IN

THE TRUST TERRITORY OF THE PACIFIC ISLANDS. SIGNIFICANT ADVANCES HAVE BEEN MADE TO INSURE THE POLITICAL MATURITY OF THE REGION. CERTAIN SOCIAL ADVANCES HAVE ALSO BEEN MADE. IN SPITE OF THESE ADVANCES, THE AREA REMAINS ECONOMICALLY UNDERDEVELOPED. OUR REQUESTS TODAY FOCUS ON THE FISCAL AND FINANCIAL ASSISTANCE ABSOLUTELY NECESSARY FOR THE UNITED STATES TO MEET ITS OBLIGATIONS UNDER THE TRUSTEESHIP AGREEMENT TO FOSTER REAL ECONOMIC DEVELOPMENT IN THE REPUBLIC OF PALAU.

SINCE THE INCEPTION OF OUR CONSTITUTIONAL GOVERNMENT IN 1981, WE HAVE CONTINUALLY ASKED THE UNITED STATES GOVERNMENT FOR ASSISTANCE IN ESTABLISHING A BASIC INFRASTRUCTURE OF PUBLIC UTILITIES AND FACILITIES WHICH ARE ABSOLUTELY ESSENTIAL FOR PALAU TO GO FORWARD WITH MEANINGFUL ECONOMIC AND HUMAN DEVELOPMENT. THE ASSISTANCE PROVIDED TO DATE, HAS BEEN VERY GRATEFULLY RECEIVED, BUT STILL REMAINS FAR BELOW THE LEVEL OF ASSISTANCE REQUIRED TO ESTABLISH A REALISTIC ECONOMIC INFRASTRUCTURE UPON WHICH TO BASE OUR FUTURE ECONOMIC DEVELOPMENT.

THE AVAILABILITY OF SUSTAINED, RELIABLE AND ECONOMICAL ELECTRICAL POWER IS ABSOLUTELY ESSENTIAL FOR THE TRUE DEVELOPMENT OF OUR ECONOMIC BASE. BECAUSE WE WERE UNSUCCESSFUL IN OUR EFFORTS TO OBTAIN ASSISTANCE FROM THE UNITED STATES TO PUT INTO PLACE A PERMANENT POWER SYSTEM IN OUR COUNTRY, WE WERE FORCED TO SEEK ASSISTANCE FROM OTHER SOURCES IN ORDER TO IMPLEMENT THIS ESSENTIAL BASIC REQUIREMENT. THROUGH PRIVATE SOURCES AND WITH OTHER FOREIGN GUARANTEES, WE WERE ABLE TO SECURE FINANCING TO CONSTRUCT A PERMANENT 16 MEGAWATT POWER STATION FOR THE REPUBLIC OF PALAU, WHICH IS INTENDED TO SERVE AS THE FOUNDATION FOR FUTURE ECONOMIC DEVELOPMENT IN OUR REPUBLIC. WE ARE VERY PROUD TO REPORT THAT OUR POWER STATION IS NOW NEARING COMPLETION AND THE FIRST TWO GENERATORS HAVE BEEN SUCCESSFULLY TEST-RUN TO OUR SATISFACTION. WE ANTICIPATE THAT OUR POWER STATION COULD REACH AN OPERATIONAL STATUS AS

EARLY AS DECEMBER OF THIS YEAR, IF FUNDS ARE MADE AVAILABLE TO EXPEDITE THE COMPLETION OF THIS MAJOR DEVELOPMENT PROJECT.

BECAUSE WE CHOSE TO INCORPORATE IN OUR NEW POWER STATION THE ECONOMICALLY PROVEN TECHNOLOGY OF LOW-SPEED, HEAVY-FUEL BURNING ENGINE-SETS, WE BELIEVE THAT OUR COSTS OF GENERATING ELECTRICAL POWER FROM THIS NEW STATION WILL BE SUBSTANTIALLY LOWER THAN OUR PRESENT GENERATING COSTS OF APPROXIMATELY 22¢ PER KILOWATT HOUR (AT OUR EXISTING UNECONOMICAL AND ANTIQUATED POWER STATION). OUR PROJECTED COSTS WILL BE A REALISTIC 9-12¢ PER KILOWATT HOUR. WHAT THIS EQUATES TO IN ACTUAL DOLLARS IS THAT OUR CURRENT POWER GENERATION COSTS, WHICH ARE IN EXCESS OF 3.6 MILLION DOLLARS ANNUALLY, (SUBSIDIZED BY OUR D.O.I. OPERATIONS BUDGET), WILL BE CUT TO APPROXIMATELY 2.6 MILLION DOLLARS ANNUALLY. OUR SAVINGS WILL PROPORTIONATELY INCREASE AS NEW CUSTOMERS ARE ADDED, (NOTE: AT THE PRESENT TIME WE CANNOT ADD NEW CUSTOMERS BECAUSE OUR GENERATING CAPACITY DOES NOT MEET PRESENT DEMAND). THE SAVINGS WE WILL REALIZE WOULD NOT ONLY BE CONSIDERED SUBSTANTIAL, THEY MAY ALSO BE DEEMED INCREDIBLE! FURTHERMORE, ONCE OPERATIONAL, OUR NEW POWER SYSTEM, WILL INCLUDE NOT ONLY ELECTRICAL GENERATING POWER, BUT ALSO SALE OF VARIOUS GRADES OF FUEL OIL, THUS ADDING TO THE ALREADY IDENTIFIED SAVINGS. THIS WILL ENABLE US TO GENERATE SUFFICIENT REVENUES TO SERVICE THE DEBT WHICH FINANCED THE CONSTRUCTION OF THE NEW POWER STATION. WE ARE PRESENTLY UNABLE TO SERVICE THIS DEBT BECAUSE WE ARE UNABLE TO PUT OUR NEW POWER STATION ON-LINE. ONCE ON LINE THE POWER SYSTEM WILL SERVICE ITS OWN DEBT.

IN ORDER FOR US TO REALIZE THESE SUBSTANTIAL SAVINGS AND TO MEET THE OBLIGATIONS TO OUR CREDITORS, WE MUST BE ABLE TO DELIVER THIS ECONOMICALLY PRODUCED ELECTRICAL POWER TO OUR CUSTOMERS. BECAUSE OF CERTAIN RESTRICTIONS, THE FINANCING WHICH WE FINALLY OBTAINED TO CONSTRUCT OUR NEW POWER STATION, DID NOT INCLUDE SUFFICIENT CAPITAL TO INSTALL THE ADDITIONAL

POWER TRANSMISSION LINES NEEDED TO DELIVER THIS RELIABLE, LOW COST POWER TO OUR WAITING CUSTOMERS. WE HAVE ASKED YOUR GOVERNMENT, IN PRIOR BUDGET SUBMISSIONS, FOR ASSISTANCE WHICH WOULD ENABLE US TO INSTALL THE NEEDED POWER TRANSMISSION LINES. THE OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS OF THE DEPARTMENT OF THE INTERIOR HAS ABRUPTLY SHUNNED ALL OF OUR REQUESTS FOR ASSISTANCE IN FUNDING THE CONSTRUCTION OF THE REQUIRED NEW TRANSMISSION LINES. NOT ONLY DO WE FIND THE ATTITUDE OF THE DEPARTMENT OF THE INTERIOR DISCONCERTING, WE ALSO CONSIDER IT A BREACH OF THE TRUSTEESHIP AGREEMENT AND A DELIBERATE ACT ON THE PART OF ONE AGENCY OF THE FEDERAL GOVERNMENT TO IMPEDE OUR PLANNED ECONOMIC DEVELOPMENT.

THE DEPARTMENT OF INTERIOR HAS TAKEN FUNDS APPROPRIATED BY THE U.S. CONGRESS FOR ELECTRICAL IMPROVEMENTS IN THE REPUBLIC OF PALAU (FUNDS THAT WOULD HAVE READILY MET OUR TRANSMISSION LINE NEEDS), AND REPROGRAMMED THOSE FUNDS FOR USE IN THE FEDERATED STATES OF MICRONESIA, LEAVING THE NEEDS OF PALAU UNMET, WITH NO PLANS OR ALTERNATIVE FOR FUTURE RECONCILIATION. I REFER TO THE 4.5 MILLION DOLLARS WHICH WAS APPROPRIATED BY THIS CONGRESS FOR USE IN FISCAL YEAR 1984 IN THE REPUBLIC OF PALAU, FOR THE PROCUREMENT OF SPECIFIC ELECTRICAL GENERATING EQUIPMENT. WE HEREBY REQUEST THAT THE CONGRESS REAPPROPRIATE THIS 4.5 MILLION DOLLARS, WHICH WAS EXPROPRIATED FROM FUNDS DESTINED FOR PALAU AND GIVEN TO THE FEDERATED STATES OF MICRONESIA BY THE DEPARTMENT OF INTERIOR.

AN ADDITIONAL APPROPRIATION OF 1.8 MILLION DOLLARS TO COMPLETE THE INSTALLATION OF POWER TRANSMISSION LINES AND IMPROVEMENTS WILL ENABLE US TO ESTABLISH OUR OWN RURAL ELECTRIFICATION AUTHORITY (REA), AND ALLOW US TO DELIVER THIS ESSENTIAL COMMODITY TO THE WAITING CUSTOMERS SO THAT THE REAL EFFORTS OF ECONOMIC DEVELOPMENT IN THE REPUBLIC OF PALAU CAN BEGIN.

AS WE APPROACH THE INEVITABLE STAGE OF FREE ASSOCIATION WITH THE UNITED STATES, WE MUST ADDRESS THE SHORTFALLS IN THE

AREA OF SOCIAL DEVELOPMENT, PARTICULARLY IN THE DEVELOPMENT OF SOCIAL INFRASTRUCTURE FOR DELIVERING HEALTH CARE IN PALAU. THE MOST IMPORTANT OF THESE IS A NEW HEALTH CARE FACILITY. SIMILARLY, THIS HAS BEEN AN URGENT NEED IN OTHER ENTITIES IN THE TRUST TERRITORY AND ONE RECOGNIZED BY THE UNITED STATES. IN RESPONSE, THE UNITED STATES HAS PROVIDED ASSISTANCE FOR THE CONSTRUCTION OF NEW HOSPITALS IN THE FEDERATED STATES OF MICRONESIA, THE REPUBLIC OF THE MARSHALLS, THE COMMONWEALTH OF THE NORTHERN MARIANAS AND IN THE NEIGHBORING U.S. TERRITORY OF GUAM. UNFORTUNATELY, THE REPUBLIC OF PALAU HAS BEEN LEFT WITHOUT A NEW HOSPITAL. THE UNITED STATES CONGRESS, HOWEVER, GENEROUSLY APPROPRIATED FUNDS FOR THE DESIGN OF A NEW HOSPITAL IN PALAU. THIS DESIGN HAS BEEN COMPLETED BY A NATIONALLY REPUTED ARCHITECTURAL FIRM.

OUR PRESENT HOSPITAL, WHICH IS LOCATED IN KOROR, PROVIDES MOST PRIMARY AND ALL SECONDARY HEALTHCARE SERVICES IN THE REPUBLIC OF PALAU. THE HOSPITAL BUILDINGS--WITH THE EXCEPTION OF ONE--ARE OVER THIRTY YEARS OLD. OUR NEED FOR A NEW HOSPITAL IS WELL ESTABLISHED IN VARIOUS DOCUMENTS INCLUDING THE CERTIFICATE OF NEED APPLICATION WHICH WAS APPROVED BY TERRITORIAL HEALTH PLANNING AND DEVELOPMENT AGENCY. FOR THE RECORD, A MORE DETAILED DESCRIPTION OF THE CURRENT DEFICIENCIES AND FUTURE NEEDS FOR THE HOSPITAL ARE DISCUSSED IN EXHIBITS 1, 2, AND 3 WHICH ARE PART OF THIS TESTIMONY. THE PROPOSED NEW HOSPITAL WILL BE A MODERN, WELL PLANNED FACILITY UTILIZING DURABLE AND LOW MAINTENANCE MATERIALS AND EQUIPMENT. THE CONSTRUCTION DOCUMENTS FOR THE NEW HOSPITAL ARE COMPLETE AND HAVE ALREADY BEEN REVIEWED BY THE TTPI, US NAVY OICC GUAM, AND THE REGION IX OFFICE OF THE PUBLIC HEALTH SERVICE. CONSTRUCTION RELATED ACTIVITIES CAN BE INITIATED AS SOON AS THE PROJECT FUNDS ARE APPROPRIATED. WE HAVE BEEN ADVISED THAT CONGRESS CONSIDERED APPROPRIATING 9 MILLION DOLLARS TO FUND THE CONSTRUCTION OF THIS HOSPITAL, BUT DID NOT ACT ON THIS

APPROPRIATION BECAUSE SPECIFIC COST ESTIMATES AND PLANS WERE NOT AVAILABLE. THE COST ESTIMATES FOR THE PROJECT HAVE BEEN COMPLETED AND THE TOTAL PROJECT COST FOR THE NEW HOSPITAL IS 14.8 MILLION DOLLARS. THIS AMOUNT OF FUNDING IS NOW REQUIRED TO CONSTRUCT A NEW HOSPITAL WHICH WILL MEET THE FOLLOWING BASIC OBJECTIVE: TO CREATE A WELL PLANNED, WELL CONSTRUCTED, WELL EQUIPPED, LOW MAINTENANCE AND LONG LASTING HOSPITAL BUILDING. WE, THEREFORE, URGE YOU TO APPROPRIATE THE FULL FUNDING REQUESTED FOR THIS PROJECT FOR FISCAL YEAR 1986.

WE HAVE INCLUDED IN OUR BUDGET SUBMISSION TO THIS RESPECTED CONGRESS, THE REMAINING ESSENTIAL INFRASTRUCTURE REQUIREMENTS WHICH WE CONSIDER ABSOLUTELY ESSENTIAL TO ESTABLISHING A BASE FOR ECONOMIC AND HUMAN DEVELOPMENT. WE BELIEVE THAT THE FUNDING OF THESE ESSENTIAL INFRASTRUCTURE REQUIREMENTS, ALONG WITH THE PROVISION OF OTHER ASSISTANCE, WILL PROVIDE PROOF THAT THE UNITED STATES HAS MET ITS RESPONSIBILITIES UNDER THE TRUSTEESHIP AGREEMENT TO FOSTER THE POLITICAL, SOCIAL AND ECONOMIC DEVELOPMENT OF PALAU. INCLUDED IN THESE ESSENTIAL INFRASTRUCTURE REQUIREMENTS ARE THE REMAINING CAPITAL IMPROVEMENT PROJECTS NECESSARY TO ESTABLISH A BASE FOR PALAU'S ECONOMIC SELF-RELIANCE. THESE CAPITAL IMPROVEMENT PROJECTS ARE VALUED AT 43.5 MILLION DOLLARS AND CONSIST OF THE REMAINING IMPROVEMENTS NEEDED FOR PALAU'S ROADS, PUBLIC FACILITIES RENOVATIONS, AND PALAU'S WATER AND SEWER SYSTEM IMPROVEMENTS. A LISTING OF THESE PROJECTS ARE APPENDED HERETO.

THE CIP FUNDING PACKAGE ALSO INCLUDES TWO PROJECTS ESSENTIAL FOR THE MOST BASIC DEVELOPMENT OF PALAU'S OUTER ISLANDS. THE PRESENT LACK OF ANY REGULAR TRANSPORTATION TO THESE ISLANDS WOULD BE REMEDIED BY THE CONSTRUCTION OF TWO CRUSHED CORAL AIRSTRIPS, VALUED AT 60,000 DOLLARS EACH. A DEPARTMENT OF ENERGY GRANT PROGRAM ENACTED IN RESPONSE TO CONGRESSIONAL RECOMMENDATIONS MADE IN THE TERRITORIAL ENERGY ASSESMENT FINAL REPORT (TEAFR), WITH AN OPEN ENDED AUTHORIZATION OF FUNDS UNDER PUBLIC

LAW 98-213, WOULD FACILITATE THE ELECTRIFICATION OF THESE ISLANDS. TOGETHER THESE PROGRAMS ADDRESS THE MOST BASIC HUMAN NEEDS ON THESE ISLANDS WHICH NOW FUNCTION ON A BARE SUBSISTENCE ECONOMY.

IN OUR BUDGET SUBMISSION, PALAU HAS ALLOWED FOR THE CONTINUATION OF FEDERAL DOMESTIC ASSISTANCE FOR THOSE FEDERAL PROGRAMS WHICH PALAU PRESENTLY PARTICIPATES IN. THESE PROGRAMS HAVE BEEN THE ONLY REAL (AND EFFECTIVE) SOURCE OF ASSISTANCE AVAILABLE TO PALAU TO ADDRESS BASIC HUMAN NEEDS AND TO FOSTER REAL SOCIAL DEVELOPMENT. THE AMOUNT OF FUNDS THAT PALAU RECEIVES THROUGH FEDERAL DOMESTIC ASSISTANCE IS LOW, AND IN GENERAL LESS THAN THE LEVELS OF FEDERAL DOMESTIC ASSISTANCE PROVIDED TO MOST TOWNS IN THE UNITED STATES. UNTIL OUR ECONOMY GROWS STRONG ENOUGH TO GENERATE REVENUES WHICH WOULD ENABLE OUR GOVERNMENT TO PROVIDE THESE ESSENTIAL HUMAN SERVICES, WE MUST CONTINUE TO RELY ON UNITED STATES FUNDING FOR THESE IMPORTANT AND MEANINGFUL PROGRAMS. THESE PROGRAMS MUST BE MAINTAINED AT LEAST UNTIL SUCH TIME AS THE ACCURATE IMPACT OF THEIR WITHDRAWAL CAN BE DETERMINED.

WE HAVE BUDGETED FOR FEDERAL DOMESTIC ASSISTANCE AT EXISTING PROGRAM LEVELS AND HAVE INCLUDED IN OUR BUDGET, AN ESTIMATE OF THOSE FUNDS WHICH WOULD BE UTILIZED BY THE HIGH COMMISSIONER OF THE TRUST TERRITORY TO ADMINISTER FEDERAL PROGRAMS AND MAKE FURTHER SUB-GRANTS IN EXISTING PROGRAM AREAS. WE FURTHER ASK CONGRESS, THOUGH YOUR RESPECTED COMMITTEE, TO ADOPT OMNIBUS LEGISLATION WHICH WOULD AUTHORIZE THOSE FEDERAL AGENCIES WHICH ARE CURRENTLY PROVIDING FEDERAL DOMESTIC ASSISTANCE TO THE HIGH COMMISSIONER OF THE TRUST TERRITORY, TO DEAL DIRECTLY WITH THE REPUBLIC OF PALAU AND THEREBY ELIMINATE THE SUBSTANTIAL COSTS ASSOCIATED WITH MAINTAINING UNNECESSARY ADMINISTRATIVE OFFICES AND OVERSIGHT IN SAIPAN, FOR THE TRUST TERRITORY OF THE PACIFIC ISLANDS. THIS WOULD IN NO WAY ELIMINATE ACCOUNTA-

BILITY FOR USE OF FEDERAL FUNDS, BUT RATHER, WOULD MAXIMIZE THE COST EFFECTIVE USE OF FEDERAL DOMESTIC PROGRAMS FUNDS.

THE UNITED STATES HAS INVESTED SUBSTANTIAL SUMS OF MONEY IN THE TRUST TERRITORY OF THE PACIFIC ISLANDS TO PUT INTO PLACE CERTAIN INFRASTRUCTURE NEEDED TO FOSTER ECONOMIC AND SOCIAL DEVELOPMENT. HOWEVER, THIS INVESTMENT COULD READILY PROVE TO HAVE BEEN A WASTE OF MONEY IF ADEQUATE FUNDS ARE NOT MADE AVAILABLE TO MAINTAIN THE INFRASTRUCTURE WHICH IS EITHER IN PLACE OR FOR WHICH WORK IS CURRENTLY IN PROGRESS. THE ALL WEATHER "PERMANENT ROADS" RECENTLY CONSTRUCTED IN THE TEMPORARY CAPITOL OF THE REPUBLIC OF PALAU, ARE NOW IN NEED OF RESURFACING, PRIMARILY BECAUSE OF THE LACK OF MAINTENANCE FUNDS AND MAINTENANCE EQUIPMENT. ALL CAPITAL INFRASTRUCTURE IN PALAU IS IN NEED OF URGENT MAINTENANCE. AN O & M BUDGET OF 5 MILLION DOLLARS HAS BEEN SUBMITTED FOR YOUR CONSIDERATION AND IS ABSOLUTELY NECESSARY TO ENSURE THAT THE EXISTING INFRASTRUCTURE WILL HAVE A REALISTIC LIFESPAN, AND THE INVESTMENT IN IT WILL NOT HAVE BEEN WASTED.

IN ADDITION TO THE AFOREMENTIONED, INITIAL FUNDING IS REQUIRED TO EFFECTIVELY IMPLEMENT PALAU'S NEW DRUG ENFORCEMENT LAWS. THESE LAWS ARE BASED UPON RECOMMENDED LEGISLATION OF THE DRUG ENFORCEMENT ADMINISTRATON (DEA) AND ADDRESS THE NEEDS OF THE UNITED STATES TO CONTROL THE FLOW OF ILLEGAL DRUGS INTO THE U.S. SINCE THE DRUG MARKET IN THE UNITED STATES PROVIDES THE FUNDS FOR THE DRUG TRAFFICKERS, WE URGE THE UNITED STATES TO ASSIST US IN COMBATING THIS INTERNATIONAL PROBLEM.

OUR PROPOSED BUDGET ALSO INCLUDES A REQUEST OF 5 MILLION DOLLARS TO RETIRE OUR NATIONAL DEBT. AS PALAU MOVES OUT OF TRUST TERRITORY STATUS IT IS IMPORTANT THAT OUR FINANCIAL RECORD BE SUFFICIENTLY STRONG TO PERMIT OUR ACCESS TO INTERNATIONAL FINANCIAL MARKETS WITHOUT THE BACKING OF THE UNITED STATES.

THE DEPARTMENT OF INTERIOR HAS PROPOSED A DECREASE IN THE GRANT TO THE COLLEGE OF MICRONESIA FROM 1.568 MILLION DOL-

IRRESPONSIBLE POSITION. THE REPUBLIC OF PALAU NEEDS AND SUPPORTS THE UNIFIED COLLEGE OF MICRONESIA. WE URGE THE CONGRESS TO MAINTAIN THE OPERATIONAL FUNDING LEVELS OF FY 1985 FOR THE COLLEGE, AND TO APPROVE THE COLLEGE'S CIP PACKAGE WHICH CALLS FOR RENOVATION OF THE PALAU CAMPUS BUILDINGS WHICH ARE OVER 20 YEARS OLD AND IN NEED OF REPAIR.

THE TECHNICAL ASSISTANCE PROGRAM OF THE DEPARTMENT OF INTERIOR IS, IN OUR OPINION, A VALID AND WORTHWHILE FEDERAL PROGRAM, DESIGNED TO ACCOMPLISH MEANINGFUL AND MEASURABLE RESULTS AND WE RESPECTFULLY URGE THE CONGRESS TO CONTINUE FUNDING TECHNICAL ASSISTANCE FOR THE REPUBLIC OF PALAU.

THE OPERATIONS BUDGET OF 10.6 MILLION DOLLARS WHICH WAS SUBMITTED BY THE ADMINISTRATION FOR THE REPUBLIC OF PALAU OPERATIONS IN FISCAL YEAR 1986, WILL AGAIN FALL SHORT OF THE LEVEL NEEDED TO DELIVER ESSENTIAL AND BASIC GOVERNMENT SERVICES. IN AN EFFORT TO OFFSET THIS ANTICIPATED BUDGETARY SHORTFALL, PALAU HAS TAKEN THE FOLLOWING POSITIVES STEPS:

1. WE HAVE INSTITUTED A FAIR, EQUITABLE AND REALISTIC TAX CODE WHICH PROVIDES SUBSTANTIAL REVENUES TO HELP OFFSET OUR PRE-IMPOSED OPERATING SHORTAGES;
2. WE HAVE SUBSTANTIALLY IMPROVED OUR ABILITIES TO COLLECT BOTH TAXES AND OTHER REVENUES WHICH ARE EARNED OR OWED TO THE GOVERNMENT OF THE REPUBLIC OF PALAU;
3. WE HAVE CURTAILED OR ELIMINATED ALL NEEDLESS OR WASTEFUL GOVERNMENT SPENDING, AND CLOSELY SCRUTINIZE ALL GOVERNMENT PAYROLL COSTS;
4. WE HAVE IMPLEMENTED A SYSTEM WHICH MAXIMIZES THE COLLECTION OF ALL UTILITY BILLS (BOTH CURRENT AND DELINQUENT);
5. WE HAVE FROZEN NON-ESSENTIAL HIRING AND OTHER COSTLY AND UNWISE PERSONNEL PRACTICES;

6. WE HAVE COMPUTERIZED MANY GOVERNMENT SYSTEMS, INCLUDING OUR FINANCIAL MANAGEMENT SYSTEM WHICH NOW PROVIDES US WITH MORE ACCURATE MANAGEMENT INFORMATION, ENABLING US TO MAKE MORE COST EFFECTIVE MANAGEMENT DECISIONS;
7. WE HAVE TAKEN ALL THE PRACTICAL STEPS WE COULD IDENTIFY TO MINIMIZE GOVERNMENT SPENDING AND HELP OFFSET THE BUDGETARY SHORTFALLS WE FACE.

EVEN AFTER IMPLEMENTING THESE STEPS, WE WILL STILL EXPERIENCE A DEFICIT IN FISCAL YEAR 1986.

IN CONCLUSION, WE HAVE ASKED IN THIS BUDGET SUBMISSION, FOR ASSISTANCE FROM THE UNITED STATES TO MEET OUR BASIC REQUIREMENTS FOR REAL ECONOMIC AND SOCIAL DEVELOPMENT. THE COMPACT OF FREE ASSOCIATION WILL PROVIDE THE MEANS FOR THE FUTURE OF THE REPUBLIC OF PALAU. THIS BUDGET REQUEST, IF FUNDED, WILL PROVIDE THE MEANS TO SUPPORT PRESENT ESSENTIAL REQUIREMENTS OF THE REPUBLIC OF PALAU.

FINALLY, THE NATIONAL CONGRESS OF THE REPUBLIC OF PALAU, MEETING IN JOINT SESSION, ADOPTED A POSITION PAPER WHICH ADDRESSESS U.S. APPROPRIATIONS TO THE REPUBLIC OF PALAU. THE EXECUTIVE BRANCH OF OUR GOVERNMENT ENDORSES AND SUPPORTS THE POSITION OF THE NATIONAL CONGRESS, AND WE RESPECTFULLY SUBMIT THIS WRITTEN STATEMENT IN FURTHER SUPPORT OF THE TESTIMONY WE HAVE PRESENTED TODAY.

WE THANK YOU FOR YOUR CONSIDERATION OF THIS VALID AND SINCERE REQUEST, AND WE AWAIT WITH GREAT ANTICIPATION YOUR FAVORABLE ACTION.

REPUBLIC OF PALAU

Fiscal Year 1986

US CONGRESSIONAL BUDGET REQUEST

Category	Amount Requested
Regular Operations	$10,600,000
Special O & M	5,000,000
Retirement Fund (Seed Money)	1,000,000
Subtotal	16,600,000
Capital Improvement Projects[1]	43,514,000
Special Projects[2]	8,500,000
TOTAL REQUEST	**68,614,000**

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[1] The following capital improvement projects and their respective costs are in order of priority:

1. Palau National Hospital	$14,800,000
2. Palau Electrical Power Improvements .	6,000,000
3. Palau Water System Improvements . . .	4,050,000
4. Capital Relocation	2,600,000
5. Palau Major Renovation Projects . . .	2,320,000
6. Koror Roads Improvement	3,874,000
7. Koror Sewer System Improvements . . .	3,135,000
8. Palau Farm Roads Improvements	6,000,000
9. Palau Outer States Electrification ..	615,000
10. Airstrips on Sonsorol and Tobi	120,000
Total CIP Request	**43,514,000**

[2] The following special projects and their associated costs are in order of priority:

1. National Debt Servicing	$5,000,000
2. DEA Reinforcement	3,500,000
TOTAL SPECIAL PROJECTS	**8,500,000**

NEW POWERPLANT

Senator JOHNSTON. Thank you, Mr. Willter. I understand that the powerplant is nearing completion, but you do not have the power lines that are hooked up. Is that correct?

Mr. WILLTER. Yes, Mr. Chairman; we are presently nearing completion on the new powerplant. We have commissioned two engines of this new plant. The two engines are sufficient to take care of the current load of the power situation if we had the line to hook the system today.

However, we are short of the funds, approximately $2 million, to hook this system. This system will not only provide power for the main city of Korror, which is the capital of Palau, but it will replace the old plant which is costing us 23 cents per kilowatt hour today, and which is very inefficient and obsolete, that today we are 2 hours on and 2 hours off on the power situation, as I speak to you this morning.

The new plant will be about 9 cents per kilowatt hour and it will save us on fuel alone about $1 million a year.

Senator JOHNSTON. In fiscal year 1985, this subcommittee added $2 million to cover the operating deficit of Palau, and I see you are now requesting an additional $5 million for debt servicing.

How has the deficit increased 250 percent over the last year?

Mr. WILLTER. Mr. Chairman, we have in the budget, as you just mentioned, $5 million for debt service, anticipated to get us over 2 years while we get this plant to be operational. We expect the plant to generate its own revenue to cover for the debt service.

We have a little problem of getting the powerplant started; because of the change of the site, the project was delayed for approximately 9 months, at which time we don't have money to cover it.

However, I would like to stress the fact that Palau is not asking this Congress to pay for this entire loan; we are merely asking that the funds, if possible, be given to us to get us over the 2 year period before we get to the point where the project will be paying for itself and we request that the funds, if possible, be made available as soon as possible.

I would like to put on record that we have requested funds previously for the powerplant project, which we were given $4.5 million by this committee, I believe, in 1984. However, the funds were subsequently reprogrammed for other programs outside of Palau. And we are asking if the committee would be good enough to reconsider this and restore the funds to us in a fiscal year 1985 supplement or our 1986 budget so we can proceed.

Once we get over this, we would like to be able to come back to the committee and report that we have been able to fund the project on our own.

I would also like to point out that we have tremendously improved our Utility Collection Program, and we have moved since we last met from $300,000 in collections to now over $1 million in collection.

We think the revenues will go up considerably on this project because we currently have two new hotels unhooked to the system because we cannot provide power. We have just completed a new airport terminal which is not hooked to the system at this time.

Senator JOHNSTON. Thank you very much, Mr. Willter.

Did anyone have anything to add to that?

[Pause.]

NEW HOSPITAL

Mr. OLIKONG. Yes, Mr. Chairman; I would like to make a statement with regard to our request for our new hospital, which will cost a little bit over $14 million. I would like to say this, that contrary to what others say about our newly designed hospital, the claims that it is over-designed is entirely not true. The design is for a hospital which will be all concrete, with all the facilities and needed equipment installed. We need that hospital.

An unfortunate thing happened yesterday when our National Hospital was compared to the Marshall Islands Hospital, which is an entirely different structure.

The Marshall Islands Hospital is made of materials with aluminum siding which is a prefab building. We have them in Palau and they are used as a dispensary type facility.

The one we are talking about and requesting, and it is in our request, is for the whole nation's hospital, which will not only serve the people of Palau, totaling 15,000, but also our visitors.

So we need the hospital, the over $14 million estimated is the money needed to construct. It is legitimate and it is based on a very strict estimate by a certified firm of architects from the west coast.

CAPITAL IMPROVEMENT PROGRAM

Also, Mr. Chairman, our request for the roads, completion of the roads, and other CIP projects are also very legitimate. And I would like to say for the record we believe they are not covered in the compact funding.

I have already been in negotiations for the free association with the United States, and there has not been any time that the CIP project was yet to be included in the compact funding.

What we were requesting for our last CIP projects are long overdue and they must be completed before implementation of Palau's compact of free association with the United States.

The administration's people are saying that whatever should fall in the infrastructure of the Government of Palau as well as other entities n Micronesia will be covered by the compact.

We say that is not true, Mr. Chairman. The CIP's that we are requesting, and the money for them, must be and should be completed before the compact of free association is implemented.

With that, I would like, on behalf of the Palau Congress, Mr. Chairman, to thank you for this opportunity to speak before this committee. Thank you very much.

Senator JOHNSTON. Thank you very much, gentlemen. I appreciate your testimony very much.

REPUBLIC OF THE MARSHALL ISLANDS

STATEMENT OF OSCAR deBRUM, CHIEF SECRETARY

ACCOMPANIED BY:
- **JAMES LEY, BUDGET AND PROGRAM OFFICER**
- **AL FOWLER, SECRETARY OF FINANCE**
- **MAY ALVIN JACKLICK, REPRESENTATIVE, KWAJALEIN ATOLL DEVELOPMENT AUTHORITY**
- **FRED WILSON, SISTERS OF MERCY INTERNATIONAL ORGANIZATION**

INTRODUCTION OF ASSOCIATES

Senator JOHNSTON. Our final witness, not our final witness, our final witness from the territories will be Chief Secretary of the Marshalls, Mr. Oscar de Brum.

Mr. DE BRUM. Thank you very much, Mr. Chairman.

Mr. Chairman, we'd like to join others who have thanked you for your past assistance and we wish to thank you for whatever assistance you can give us in our plea for continued financial assistance. You certainly have been sympathetic in the past as this committee has been, and we hope you will continue to be sympathetic to our requests for assistance.

Mr. Chairman, we are here to represent the Government of the Marshall Islands, President Kabua and elected and traditional leaders, and I am happy to introduce the other members of the committee here. To my left is the budget and program officer, Mr. James Ley. To my right is the secretary of finance, Mr. Al Fowler, and next to him is Mayor Jacklick from Ebeye, Alvin Jacklick, and the gentleman next to him is Mr. Fred Wilson of the Sisters of Mercy International Organization, to whom we have contracted the operations and maintenance of our new hospital.

PREPARED STATEMENTS

Mr. Chairman, we'd like to request that our statements be made part of the record.

Senator JOHNSTON. They will be made part of the record.

[The statements follow:]

STATEMENT OF OSCAR DEBRUM

CIP STATUS REPORT

On January 28, 1985, the Republic of the Marshall island Cabinet appointed a Board of Directors for the Marshall Islands Development Authority (MIDA) and designated MIDA as the Authority over the Capital Improvement Program (CIP) in the Marshall Islands. This is the first stage in transferring all CIP functions as agreed in the Memorandum of Understanding from the Trust Territory Government to the Republic of the Marshall Islands.

The new CIP offices have been constructed, furnished and additional staff are now being recruited to man these new facilities. When fully staffed within the next three months, it is anticipated that the CIP programs will proceed in a well programmed, expeditious, and efficient manner. Under this agreement, both in-house and outside planners, architects, engineers, consultants, and other key personnel will be utilized to balance and complete the various programs as needed.

The status of the present CIP projects are listed below:

New Majuro Hospital

This facility is scheduled to be completed by July of this year. This in-house "Force Account" project is expected to be finished within the original DOI budget funding even though the scope of work has expanded considerably. A complete roof catchment water system, connected to a dedicated 5 million gallon existing water reservoir, is being constructed along with an increase of 14,000 square feet of floor space.

Numerous other additions have been added to facilitate ease of Operation and Maintenance. When it is operational and fully staffed the new hospital will provide badly needed health services to the population of the Marshall Islands. Negotiations are proceeding with the Sisters of Mercy Health Services Corporation to handle the transition from the old hospital and the Administration, Operation, and Maintenance of the new one.

Majuro Sewer Line-Phase I

A "Notice to Proceed" has been issued this month to the winning contractor to construct this EPA funded $5 million project. The scope of work includes a primary treatment facility, ocean outfall, approximately four miles of sewer lines with lift stations, house connections and a parallel salt water flushing system, all in the Darritt area of Majuro.

Laura Wastewater Project

As mentioned above, this $.5 million project was originally funded from the EPA. They have been reprogrammed and the source is now DOI funding. The scope of work is to develop a wastewater system for Laura that will protect the Laura potable lens wells system. It is recognized that this level of funding is insufficient to construct all of the necessary facilities for Laura, but it would provide initial funding for the construction of wastewater facilities in the most critical groundwater recharge areas.

It is estimated an additional $.5 million will be needed to implement the total scope of work throughout Laura.

Laura Electrical Distribution Project

The scope of work for this DOI funded project in the amount of $165,000 is scheduled to be used to install the secondary electrical system at Laura and connect it to the new underground cable from the new airport. It will provide for replacement and upgrading of the overhead distribution that was never completed under a former CIP project. A project Grant Agreement has been approved with the Trust Territory Government to proceed on the plans, specifications and bid documents. Preliminary studies indicate that the amount of funding will be inadequate to totally electrify Laura.

It is estimated that an additional $150,000 in funding is needed for this project. Completion of the initial phase is expected in late 1985.

Majuro Cafetorium Project

A "Notice to Proceed" has been issued to the Contractor on this DOI funded $1.5 million project. Completion date is expected to be in May 1986.

Majuro Dock Repair Project

The scope of work for this DOI funded project in the amount of $147,000 is to repair the main Majuro dock severely damaged by incoming vessels due to an inadequate bumper system. It will provide additional bumpers for protection and repairs to the dock face and curbing. A Project Grant Agreement has been approved by the Trust Territory Government and plans, specifications and bid documents are being developed at this time. Completion is expected in late 1985.

An additional $.5 million was reprogrammed from the TTEPB Laura Sewer Project and added to this project to extend the sewer and salt water lines to Uliga (See Phase II report below). Completion of this first phase is May, 1986. Total EPA funding is now $5.5 million.

Majuro Sewer Line- Phase II

The design, specifications, and contract bid documents for this $8 million DOI grant project are to be completed and put out for bid in March, 1985. The scope of work includes the completion of Phase I sewer and salt water flushing system throughout the D.U.D area of Majuro.

As mentioned in the Phase 1 report above, at the TTEPB's last quarterly meeting held in Saipan this past December, EPA funding for the Laura sewer Project was established at a level of $.5 million. It was recognized that this level of funding was insufficient to construct all of the necessary facilities for Laura, but would provide initial funding for the construction of wastewater facilities in the most critical groundwater recharge areas.

It was decided by the TTEPB to reprogram the $.5 million for the Laura Sewer Project to the Majuro Sewer Project - Phase I that is currently underway. A matching $.5 million from DOI's $8 million grant for the Majuro Sewer Project - Phase II would be reprogrammed for the Laura Sewer Project. By making these reprogramming measures, it will not be necessary to prepare an amendment to the 1979 Wastewater Facilities Plan in accordance with EPA's regulations. This 1979 plan proposed the use of individual on-site wastewater systems, including a combination of pit privies and septic tank/leach field systems. The selection of this alternative did not fully consider the use of the groundwater aquifer in Laura as a major potable water resource.

Majuro Water Project

DOI has funded $2.5 million of this project to develop additional groundwater resources in the Laura area. The scope of work now being developed is two-fold and is anticipated to be in two phases. Phase I plans will concentrate on supplying Laura Village with a centralized water system. Phase II will connect the Laura system to the existing Majuro water system.

Laura village is presently without a centralized water supply and distribution system. The water supply for this area is derived from shallow wells and household catchment systems.

During the past year, an underground electrical cable was laid from the Majuro airport substation to Laura which, upon completion of the secondary distribution system this year, will provide a reliable power supply system for the village. It is anticipated that the development of Laura's infrastructural needs i.e., power, water, etc., coupled with the limited land area area available for development in D.U.D. will results in a substantial increase in the area's population and economic development. This increase in population and economic development will require additional water resources development.

As a first step, the government has entered into an agreement with the USGS, through an agreement with the DOI, to conduct a hydrogeological study to determine the configuration and extent of the freshwater lens that occurs within Laura Island. During the next month or two, additional exploratory wells will be drilled to permit further delineation of the aquifer's yield, i.e., the quantity of water that can safely be withdrawn from the groundwater without adversely affecting the quality of the water extracted. At the conclusion of the USGS study, engineering plans and specifications will be developed to implement the construction of the Phase I Laura Water distribution system and the Phase II Laura to Majuro water system connection.

It should be noted that the development of a controlled, monitored, and centralized well system is critical for the protection of this vital water resource. Without it, Laura residents will install individual water pumps when the electricity is turned on and the results will be the rapid destruction of the existing aquifer.

The Phase II pipeline connection from Laura to the Majuro airport water system will be designed to alleviate the periodic water shortages in the D.U.D area. The present water supply is barely adequate to meet the present demand and is insufficient during periods of prolonged drought.

The preliminary estimates from the USGS indicate an excess of 500 million gallons of potable water in the Laura aquifer with a possible extraction rate of over .5 million gallons of potable water per day. By installation of the pipeline water can be supplied not only to D.U.D during the dry periods, but will also open up the 19 miles separating the Majuro airport and Laura for future development. During the rainy seasons the Majuro airport catchment system can reverse the supply of water from Majuro airport back to Laura and assist nature in the recharging of the Laura aquifer with excess run-off at the airport.

Jaluit Dock Project

The scope of work for this DOI funded project in the amount of $880,000 is to design and construct a new dock at Jabor, Jaluit atoll. Included in the scope is the removal of the existing dock which had failed structurally and is collasping.

A review of the Jaluit Dock Projects plans designed in 1978 by the Corp of Engineers is being studied at this time. These plans estimated that the total construction costs and removal of the existing dock would be approximately $2 million. Adding a conservative estimate for inflation the past seven years (7 years X .05%) would indicate that the present day cost would be an additional of $.7 million or $2.7 million total. Given the amount of the grant, an additional $1.82 million should be requested from the DOI to complete the scope of work the Corp of Engineers thought was necessary in 1978 for this project. In the meantime, preliminary designs are being prepared to downscale the project in an attempt to stay within the budgetary constraints. A smaller, sheetpiled, and coral backfilled dock is presently envisioned.

STATEMENT OF JEROLD F. FALEY, ADMINISTRATOR, TRUST TERRITORY SOCIAL SECURITY SYSTEM

Mr. Chairman and members of the Committee, I am Jerold Facey, Administrator of the Social Security System of the Trust Territory of the Pacific Islands. I would like to thank you for giving us the time to present our continuing concern regarding future funding of the Trust Territory Prior Service Program.

My statement is intentionally brief because we have submitted to your Committee the details and recommendations for funding the Prior Service Program upon implementation of the Compacts or termination of the Trusteeship. I would like to submit for the record a recent report on funding future Prior Service benefits from our consulting actuary, Robert J. Myers.

Unlike the past, the Administration's budget contains no Prior Service funding for the Federated States of Micronesia and the Republic of the Marshall Islands for FY 1986. Therefore, to avoid any hardship to the approximately 400 families currently depending on monthly Prior Service benefits as well as hundreds of others upon termination of the Trusteeship Agreement we need to resolve this issue soon.

Thank you Mr. Chairman once again. If you or any members of the Committee have any questions I would be happy to answer them.

STATEMENT OF ALVIN JACKLICK

Chairman McClure, members of the Committee, Secretary Montoya, and other distinguished participants in these hearings. I appreciate the opportunity to be part of the Marshall Islands delegation testifying today.

The Kwajalein Atoll Development Authority became a statutory corporation under the laws of the Marshall Islands through legislation passed by the Nitijela in March of 1985. The Authority operated for two years prior to then as well, with the participation of the Government of the Marshall Islands.

The Authority is continuing the process of formulating a comprehensive 15 year development plan for relieving the extremely difficult living conditions that have existed on Ebeye and as funds become available continues to implement projects to alleviate the problems there. This year has seen some significant projects completed.

Availabilty and distribution of water and electricity remain critical problems. However, improvement in the consistency of service has been achieved, even though the systems are not yet adequate for the population. Water is still barged over from Kwajalein and must be constantly rationed. It is available to Ebeye residents only one half an hour out of every twenty four. This situation will have to continue until the proposed desalination plant is in operation.

The sewage treatment plant has been renovated and now works. The sanitary salt water system is now operational on a minimal basis pending work this year on a major repair and upgrade of the system under an E.P.A.

funded project. These systems are being operated and maintained by a private operator under contract to the Ministry of Public Works.

The hospital building, which was a disgrace two years ago, has been renovated and is being well maintained even though problems still exist with the level of medical service provided. The Ebeye hospital still provides basically only dispensary level services due to a lack of trained personnel such as administrators and technicians, as well as shortages of adequate medical equipment and supplies. The 24 bed capacity is insufficient for the population of approximately 8,500 persons.

Design of the new power and desalination plant is nearing completion.

Ground breaking on the facility took place on March 7 of this year. With adequate funding this facility should be on line by December 1986.

The Ebeye Warehouse is also nearing completion and a request for proposals has been let to private companies to establish a much needed wholesale goods operation there. The intention is to strengthen the local business sector and provide a wider and more reasonably priced selection of goods to the Ebeye consumers.

An Environmental Impact Statement is in the final stages for the proposed causeway project. A draft of the statement is due to be released next month. Design of the project is at the 65% stage. Construction should begin in December 1985 if funding is available. At this time there is none.

The unhealthful dust situation on Ebeye has been reduced with the temporary hardsurfacing of the main Ebeye road which was completed in late March. Also, phase one of a tree planting program has been carried out with over 500 pine and other types of seedlings having been planted as wind breaks. Unfortunately, drought has killed many of these trees and a new series of planting is necessary. This is a community project sponsored by KADA and Kwajalein Atoll Local Government with assistance from the Republic of the Marshall Islands Ministry of Resources and Development Agricultural Department.

The headstart program was in need of facilities to initiate a preschool program for the over 1000 eligible Ebeye children. KADA has constructed a 12 classroom temporary facility to provide for 220 children until a more permanent facility can be built in concert with the Ebeye Elementary School Campus scheduled for construction in 1987.

Other projects include the completion of an office building for KADA, waterproofing of the community services and shelter building, completion of renovation of existing water tanks and gutters on public housing, painting of water tanks and pumping facilities, purchase of fire hose and fittings for a temporary fire pump until Ebeye receives a fire truck, and design and funding for renovation of a tennis/basketball court and softball field.

In planning for future development, projects have been identified to provide the necessary infrastructure and adequate health, safety and welfare requirements to allow Ebeye to begin to develop economically and socially. These projects have been incorporated into the First Five Year Development Plan of the Marshall Islands recently adopted by the Nitijela. However present funding under the IUA and the Compact as now identified will not be adequate without further enhancement to provide for this comprehensive development.

Moreover, to expedite the program, funding should occur at a maximum within the next seven years so that the necessary infrastructural development can be in place for orderly economic growth to follow. Presently the identified funding is spread over a 15 year period and if programed at that rate will only be sufficient to maintain the status quo rather than allow for progressive economic and social development.

If improvement is to continue, for 1986 KADA needs to initiate the list of projects attached. Some of these, such as the dock repair and emergency housing are situations requiring immediate attention while others such as the causeway and desalination plant hold crucial positions in the development program schedule.

Funding on hand and obtained under the existing I.U.A. has been totally obligated for the power and desalination plant project and some the other projects described earlier. If the development program is to be implemented as planned there will be a shortfall in funding of 3.32 million in 1985 and 14.3 million in 1986. This shortfall will have to be made up either through funding from enhanced compact funding, special appropriation from Congress, or another scource. Otherwise there will be a major setback in the development program.

We ask that the committee evaluate the overall needs of the Kwajalein infrastructure in dollars and assist in funding through the FY '86 budget process, or where appropriate , through other sources. We have attached detailed descriptions of the projects contemplated, together with funding requirements, in order of priorty.

1986 Capital Improvements Requirements for Kwajalein Atoll

Project: **Ebeye Dock Emergency Repair**

Amount Requested: **$680,000**

Description:

The deep water pier at Ebeye was a C.I.P. project designed and construction managed by the Army Corps of Engineers in 1981. It replaced an older shallow water pier and has allowed supply ships to offload goods directly on Ebeye rather than have to rely on offloading on Kwajalein Island, which was a strain on KMR resources; and transhipment to Ebeye, which added to the cost of goods.

However the dock was designed for smaller ships than are now calling there and has received major damage during docking operations, including the collaspe of one dolphin , and the imminent collaspe of the remaining one. The dolphins are used to moor the ships and once the second dolphin collaspes (it is being supported by only two intact concrete piers out of the 6 original supports) supply ships will not be able to dock at Ebeye. This will cut off food and supplies except through KMR, meaning a return to the previous undesirable situation of off loading on Kwajalein and transhipping to Ebeye.

In February KADA engaged an engineering firm to make a damage assessment and cost estimate for repair. Their report indicates that repair costs will amount to $680,000 if the work is undertaken before further damage occurs.

Project: **Power/Desalination Plant**

Amount Requested: **$1,000,000**

Description:

The design for the Power/Desalination Plant is nearing completion, the first two generators and ancillary equipment have arrived on island, and site work has commenced on the facility. Costs for this work are being covered by existing KADA funding. However there will be a shortfall of approximately $1,000,000 for the purchase and installation of the important desalination plant portion of the project which will be underway by early next year.

In order to eliminate the dependance of Ebeye on barged water from Kwajalein, it is imperative that this project be completed as soon as possible. With the funding requested the plant could go on line as early as December 1986.

Project: **Third Generator Purchase**

Amount Requested: **$2,250,000**

Description:

Phase One of the Power/ Desalination Plant Project, now underway, calls for the initial installation of two generators necessary to carry the island power load for the immediate future. However projections show that shortly after the plant comes on line power demand will be such that both generators will be running full time. Proper power plant procedure requires that there should always be one engine idle for maintenance downtime and emergency backup. In addition while the initial two engines will allow for production of approximately 140,000 GPD of fresh water,the third generator would boost that amount to a potential 300,000 GPD when required.

KADA has a guaranteed price option on the third engine that must be exercised by December 1986 at which time the price is projected to jump considerably. Moreover the most cost effective time to install the third engine would be when the contractor for Phase One is still mobilized and this meshes with a 1986 purchase schedule.

Project: **Causeway**

Amount
Requested: **$7,500,000**

Description:

Besides the power/desalination plant the other pivotal element of the development plan is the Causeway Project. Virtually all other projects hinge on the expeditious implementation of this project which will connect six adjacent islands to Ebeye thereby opening up new land for schools, housing relocations and other key aspects of the plan necessary to releive the overcrowding problem on Ebeye.

The estimated cost for the total project is $15,000,000. An Environmental Impact Statement is nearing completion for the project and engineering work should be completed by November. This would allow for phase one construction as early as December 1985. To properly expedite the development of this project 7.5 million must be identified now to initiate the first phase of construction.

Project: **Sanitary Land Fill**

Amount
Requested: **$500,000**

Description:

At present trash and garbage are being dumped at the north tip of Ebeye Island in an area only partially protected from wave action. Consequently trash is often washed into the lagoon thereby polluting it. Moreover, the exposed garbage is a breedingground for insects and vermin, exacerbating the health problem. A sanitary landfill is required to alleviate this condition. The landfill will be created by using large coral rock as a revetment to contain the dump area. Proper landfill procedures which call for burning and coverage of raw garbage with layers of dredged coraline fill will be instituted.

This will be an ongoing project which will progress adjacent to new causeway in phases. As new land is created by topped off landfill, it will be developed into much needed recreational areas. The initial phase of this project is to upgrade and develop the existing dump area at a cost of $500,000 in 1986.

Project: Elementary and High Schools

Amount
Requested: Ebeye Elementary- $200,000
Ninge High School - $200,000

Description:

The school system on Ebeye consists of one public elementary school, a headstart program and several small private church schools. No public high school facility exists for the 8,500 population. Eligible students must go to schools in Majuro 250 miles away or Jaluit 120 miles distant and board at public schools there just to receive a secondary education. This is a serious detriment to the ongoing development of the population.

The elementary school consists of 4 classroom buildings. Three were built as temporary structures years ago and are beyond rehabilitation. The fourth building is of concrete block construction but is badly in need of renovation. No working toilet facilities exist at the site for the 900 plus students.

To upgrade the elementary school facility a new 8 classroom masonry building will replace the wooden structure now housing the 1st and 2nd graders, which is a major hazard, and the existing concrete block building will be renovated.

The cost of these projects is estimated at $700,000. Funds in the amount of $500,000 have been identified but must obligated by September 1985. This leaves a shortfall of $200,000 which is the amount of this request.

The High School is a major priority both for the Kwajalein Local Government and the National Government since it will not only offer secondary education to the Ebeye population but releive the pressure on the nation's two other high schools as well. This school would be built on Ninge Island once the causeway is in place. To expedite this much needed project planning and design are a piority for 1986 requiring $200,000 in funds.

Project: **Emergency Housing**

Amount
Requested: $400,000

Description:

In February 1983, a major fire occured ultimately destroying 16 houses and leaving 300 people without shelter. These families were to temporarily be located in the community shelter building. Since that time they have had to remain there because no housing alternatives have become available. They live in one large concrete room with only four foot partitions between each familiy's space. All share one water spigot and a gang toilet outside.

Sixteen housing units are proposed for construction at a cost of $25,000 each to be implemented as soon as funding can be secured.

Project: **Intra- Atoll Development**

Amount
Requested: $250,000

Description:

There are four other islands within the atoll which have populations besides KMR and Ebeye. These Islands are almost totally isolated from Ebeye due to a lack of any scheduled water transportation system among them. This has resulted in 350 people ofSanto who are the Marshallese workers on Roi Namur and their families, being totally dependent on Roi Namur for food and supplies. There is not even a single store on Santo. Ebaden, the largest island in the atoll has only 70 occupants because field trip ships call so infrequently that few want to live there. Ebaden along with Carlos and Carlson islands could become valuable contributers to the overall economic development of the atoll through agriculture and other endeavors were a transporatation system established. Moreover residents of those islands now living on Ebeye may be more willing to move back were access to the schools and medical facilities on Ebeye more accessable.

To encourage more development on these islands KADA would like to purchase a sixty foot cargo/passenger vessel for scheduled weekly supply trips. Costs are estimated at $200,000 for boat procurement and $50,000 for the initial year of operation after which time it is anticipated the system could become self sufficient as outer island development begins to take hold.

Project: **Fuel Farm**

Amount
Requested: $2,000,000

Description:

Once the power/desalination plant becomes operative in December 1986, it will require approximately 10,800 gallons of fuel per day. Presently there is only one supplier on the island that is capable of suppling this oil using his own tanks. However there are several suppliers of oil who would be willing to bid on supplying the plant's needs who have no storage facilities on the island. Consequently the plant will be forced to accept the price offered by the on-island supplier unless the Authority builds its own storage tanks. Experiences in other islands of the area with similiar situations show that considerable savings in oil pruchases can be acheived where competitive bidding on shipments is conducted. Funding for this project in 1986 would mean that it could be built concurrently with the power plant and allow for maximum economy of operation when the plant opens.

Project: **Fire/Police Facility**

Amount
Requested: $1,185,000

Description:

The existing public safety building was badly damaged in a typhoon several years ago and should be condemned. At this time however the building is still being used as a police station, jail, and courtroom. Ebeye has no fire fighting station or trucks. As an interim solution, a surplus brushfire truck from the U.S. Forestry Service will be received this year but it will be inadequate to meet the community's needs beyond anything larger than a small fire.

A completly new facility is required to house these functions and adequate fire fighting equipment must be purchased. Otherwise Ebeye will remain the disaster waiting to happen it is today.

Project: **Water Distribution System**

Amount
Requested: **$785,000**

Description:

Development of the residential and commercial areas opened up by Phase One of the causeway will require installation of a new water distribution line up the causeway. The most expeditious and cost effective time to install this line is concurrent with the causeway construction to avoid digging up the causeway road later. Cost of this intital phase of the water distribution system extension is $655,000.

Project: **Public Works Facility**

Amount
Requested: **$750,000**

Description:

The existing Public Works facility is a badly deteriorted complex of buildings located in the center of the island at the main crossroads of the town. The existing power plant, which is a part of this operation, is adjacent to the Elementary School and is a major noise and air polluter. Once the new power plant is in operation and the old plant no longer needed, the public works facility should be moved to an area adjacent to new plant and the land it is now occupying reclaimed for development of the elementary school which presently has no room for expansion.

To maintain the schedule of development the new Public Works Facility should be ready for occupancy by Decemebr 1986, the projected date for the opening ot the new power plant.

Summary:

Emergency Dock Repair:	**$ 680,000**
Power/Desalination Plant:	**1,000,000**
Third Generator:	**2,250,000**
Causeway:	**7,500,000**
Sanitary Landfill:	**500,000**
Elem. School:	**200,000**
High School:	**200,000**
Emergency Housing:	**400,000**
Intra Atoll Description:	**250,000**
Fire/ Police Facility:	**1,185,000**
Fuel Farm:	**2,000,000**
Water Distribution:	**655,000**
Public Works Facility:	**750,000**

TOTAL REQUESTED...$17,700,000

SUMMARY STATEMENT OF CHIEF SECRETARY OSCAR DE BRUM

Mr. de Brum. Thank you, sir. And I will be brief in my summary, because I know that Mayor Jacklick would also like to comment briefly, if you would give us a little time to summarize our statement, very briefly, in the interest of time.

Mr. Chairman, like other governments in the Pacific Islands, we have made several strides to become self-reliant. We want to thank you and the U.S. Government for the funding they have made possible for us to become economically self-reliant, at least beginning to take that route toward self-sufficiency.

For the first time, I am happy to report that the revenue from local collections now has exceeded the basic grant from the United States. Also we have been able to, through frugal spending and careful financial management with the assistance of the Department of the Interior, we were able to realize financial savings that have been able to contribute to paying our debt for the last 2 years. We have been able to pay something like $4 million that we owe to the Tripler Army Medical Center. We hope to continue to make improvements and help ourselves, as you try to help us out.

We appreciate all that.

We have also inherited tremendous responsibility in the administration, as the High Commissioner's Office has dwindled down, as we assume more and more responsibility of administration. Although we have received funding in recognition of some of these responsibilities that we have assumed, we do feel that the funding has not been adequate. We have listed some of these funding needs in our summary for the record, and I hope your committee will carefully consider them.

Mr. Chairman, as you know, Ebeye has been one of the sore spots insofar as the Republic of the Marshall Islands is concerned. We have been able to work with the energetic and enterprising young men, the very dedicated new leaders of Ebeye, Mayor Jacklick, who will say a few words on behalf of the Ebeye residents. We have helped them with the renovation of their hospital, with their water system, with their sewer system and road system and power distribution system, and he has shown willingness to assume some of these responsibilities, and we are working very closely with him to delegate and decentralize some of these responsibilities to where they can best be performed on his level.

So I am very pleased to introduce to you, Mr. Chairman, Mayor Jacklick of Ebeye, and after this, we will be very happy to answer whatever questions you might have.

I do want to say, for the record, that we appreciate the administration's submission of the compact funding, and we support that wholeheartedly.

Thank you, sir.

Senator JOHNSTON. Thank you very much, Mr. de Brum.

Mayor, we're glad to welcome you to the committee.

SUMMARY STATEMENT OF MAYOR ALVIN JACKLICK

Mayor JACKLICK. Thank you, Mr. Chairman, members of the committee, staff, and distinguished participants in these hearings. I am very appreciative to be part of the Marshall Islands delegation testifying before this committee.

Mr. Chairman, for the record and your ready reference, I have submitted our statement, which is self-explanatory, and speaks the minds of the leaders of Kwajalein Atoll, as well as addressing the needs of the people of Ebeye and Kwajalein Atoll.

Mr. Chairman, with the limited funds available to the development authority of Kwajalein Atoll under the interim agreement which amounted to $14.7 million within the last 3 years, we have been able to make progress and improvements on Ebeye Island.

With these limited funds, and hopefully, other additional funding from the Marshall Islands Government, as well as the U.S. Congress, we will be able to do more than 10 percent of what we have done within the last few years after we took over the development authority projects on Kwajalein Atoll.

Mr. Chairman, our request for funding for fiscal year 1986 is clearly explained in our statement in the breakdown of all the projects that we have submitted. The total is $17.7 million, of which $12 million has been highly recommended by Congressman Seiberling. For the record, I would like to express the appreciation of the people of Kwajalein Atoll for the support and assistance Congressman Seiberling has shown us over the past few years.

Mr. Chairman, with your support and assistance, I believe, we will be able to do the overdue jobs and problems that have been created on Ebeye, to cure the overcrowding, the shortage of water, lack of medicines in our hospital, and other projects that are basically needed for the development of Kwajalein Atoll.

Thank you very much, Mr. Chairman, and I hope you will be sympathetic to the needs of all those people on Ebeye, especially with your assistance. I believe we will be able to do all these projects and improve the living conditions that we have been living under over the past 30 years.

Senator JOHNSTON. Thank you, Mr. Mayor. We are familiar from Mr. deBrum's statement and also from our own knowledge, with the great progress Ebeye has made under your leadership. We know the water situation has improved. I know you're making progress in your relationship with the military and the hospital is coming along well. What is the status of the hospital at this point?

Mayor JACKLICK. Physically, the hospital is in good condition with proper maintenance by an American constructor, AIC. The problem we have with the hospital, Mr. Chairman, is we don't have medicines, I think, because of the fact that we don't have enough money to buy the medicine for the needs of the people on Ebeye.

Senator JOHNSTON. Well, we will try to work with you on that problem.

Thank you very much, Mayor, and thank you very much, gentlemen, Mr. deBrum. We will try to accommodate your request as best we can.

Mayor JACKLICK. Thank you very much, Mr. Chairman.

OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS

STATEMENT OF RICHARD T. MONTOYA, ASSISTANT SECRETARY

ACCOMPANIED BY JANET J. McCOY, HIGH COMMISSIONER, TRUST TERRITORY OF THE PACIFIC ISLANDS

SHORTNESS OF TIME

Senator JOHNSTON. We hate to give the administration short shrift today, but we have really run out of time, but the administration—Assistant Secretary Rick Montoya is here, I believe. Rick would you come forward and maybe we can get the highlights, and we'll have to submit most of our questions in writing.

Sorry to run out of time.

Mr. MONTOYA. No problem, Mr. Chairman.

Senator JOHNSTON. I think it's very important that these witnesses who have to come from so far to be able to get their say.

Mr. MONTOYA. I agree completely, Mr. Chairman. In listening to the testimony by the various governments that are coming in, I have to compliment some of them and say that we haven't quite gotten the message across to others. And you always run the risk whenever you try to generalize that you're going to offend somebody because they've been doing a good job in one area or another.

Very briefly, I'd like to ask Jan McCoy, our High Commissioner, to come up and join me.

Senator JOHNSTON. Yes, indeed.

SUMMARY STATEMENT OF ASSISTANT SECRETARY RICHARD T. MONTOYA

Mr. MONTOYA. I think my comments are going to be about 2½ minutes, if you don't mind, Mr. Chairman.

We have entered into a policy, as you're well aware, that I think is working, and that's a policy that we embarked on under my tenure. We said that we were going to make the governments more efficient. We were going to do this through privatization. We were going to spend more of our technical assistance on privatization, in order to make these governments more efficient, and hopefuly, reduce their government operations costs.

We also talked about diversifying the economies, trying to bring in other types of businesses that would develop a strong private sector, so that we could get some of these folks off of the Government payrolls and out into the private sector where they belong. We thought that we could use something that's tried and true under this administration, and that's leveraging, using the private sector and user fees. We have seen many of the territories embark on a very aggressive course of privatization.

The privatizing of the Marine Railway, the Ronald Reagan Marine Railway in Pago Pago, American Samoa, is the first. It is setting a precedent. Many of the other governors are following through with this.

We feel that this is important and this is the way to go. When we look at the 340 some odd million dollars' worth of addons that are requested by the governments, we feel that if it was any other time, these would be areas that we would like to look at, but in these austere budget times, doesn't it serve us better to hold the line on spending and to continue a policy that is working, that is making the governments live within their means and set their own priorities.

The final thing that I would like to mention is a cautionary note that concerns me a great deal, and that's in the past 18 months that I've been in this position, I have seen a situation that continues to grow, and that's a situation where because of the distance from the mainland or from the Pacific rim countries, we see a small cadre of folks that are coming out there and are starting to strangle the possible competition that is the lifeblood of economic development from these islands.

We have a few people that are going out and are literally soaking up all of the dollars that are coming in or are anticipated in the future. And again, I qualify it by saying this is a cautionary note.

Senator JOHNSTON. You mean getting control of all the business in the area?

Mr. MONTOYA. Well, there's a policy in place that we think the governments are starting to get away from, and I commend them on this, where they get a business agent or someone to represent them, and thereby, other businesses, other investors that want to come in, have to work within this tight circle. That obviously is counterproductive and that limits competition, and it's dangerous.

Senator JOHNSTON. It's in the great American tradition to want to do that. It's also in the great American tradition to try to put some safeguards on to see that it is not done.

Mr. MONTOYA. But I would be remiss, Mr. Chairman, if I didn't recommend the High Commissioner, and after the long hours that she's flown to be with us for her reflection on this past year.

Senator JOHNSTON. Ms. McCoy, welcome to the committee.

SUMMARY STATEMENT OF HIGH COMMISSIONER JANET J. McCOY

Ms. MCCOY. Thank you, sir. It's a privilege to be here. I always enjoy—it's sort of like coming home after a long trip, and it's delightful to be here.

I'd like to invite you to come out and see us sometime.

Senator JOHNSTON. Yes; I've been there, but not in sometime.

Ms. MCCOY. Well, come back again. You'd see a lot of changes.

Senator JOHNSTON. I'll bet.

Ms. MCCOY. And hopefully, you'll come fairly soon, because we're winding the trusteeship down. And we have made great strides this year and justifiably so. The governments are taking over more and more responsibility, and as they do so, it gives us a chance to wind the trusteeship down, to change our staff. We feel that we are doing this without shirking any of the responsibilities to either Congress or to the U.S. Government, to you and to the governments.

By October 1, we will be down to 62 employees from 160 right now. And we think this is a step in the right direction. Out of that, there will be only 30 who are funded by DOI. The rest are Federal grants people. It's been an interesting year. I think a most progressive year. I think the Micronesians deserve a lot of credit for the strides they have been made, and I have been most happy and most proud to work with them.

Senator JOHNSTON. Thank you very much.

Mr. MONTOYA. Mr. Chairman, one last point.

In hearing the witnesses, again, I would be remiss in my duties as a protector of the taxpayer's dollar, if I didn't clarify the record on this power situation in Palau. As you'll recall, that $4.5 million was provided by this committee and passed through the Congress as an alternative to the IPSECO deal that was consummated in regard to Palau. That was a $34 million deal versus a zero cost alternative to them from this committee, and what they forgot to include was the power lines to hook up this new powerplant.

My position is, if that deal was good enough to warrant a $34 million loan by the British, it should be good enough to increase it by $2 million on the part of those bankers to provide those power lines.

They're talking about a 7 to 9 cent per kilowatt hour cost, but no debt service is figured into that. When you figure in the debt service, it works out to about 35 to 30 cents per kilowatt hour. Much higher than what's being provided right now. And that is something that we need to watch when we look at these proposals that are being submitted. It costs about a day-to-day operating cost of 5 cents or 7 cents, but it doesn't take into account the debt service that's required to repay these overbloated power funding packages that were put together.

Thank you, Mr. Chairman.

Senator JOHNSTON. Thank you, Mr. Secretary and Madame High Commissioner.

It is a great pleasure to have you here. Thank you very much for being at the hearing.

ADDITIONAL COMMITTEE QUESTIONS

There are some additional questions in regard to each of the territories which will be submitted for your response.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Administration of Territories

Question: You have requested the deletion of bill language the words "not to exceed". As you know, the intent of this phrase is to differentiate funding in the appropriations that is available until expended from funding that has an annual limitation. According to your justification, existence of this clause creates significant administrative difficulties in obtaining appropriation warrants from the U.S. Treasury and apportionments from the Office of Management and Budget.

Can you describe these difficulties with Treasury and OMB?

How will the deletion of this language solve these difficulties if the effect of the language is still included in the Committee reports?

Answer: Treasury interprets the inclusion of the "not to exceed" clause preceding the amounts for no-year grant money and annual salaries and expenses money as denoting ceilings rather than finite dollar amounts. Therefore, they will not issue a direct warrant for those amounts. Instead, we must first seek a warrant for the entire appropriation and then go through an appropriation-transfer process to create the two accounts. This process results in unnecessary delays. We do not believe that deletion of this clause changes the intent of the appropriation language.

Guam Penitentiary

Question: It is my understanding that a fire recently destroyed temporary housing at the penitentiary and displaced 20 inmates. More importantly, the existing penitentiary has accommodations for only 48 inmates serving long term sentences.

Capacity of the penitentiary is 70 and the current population is 154. This has forced officials of Guam to house 20 inmates in the industrial shop.

Guam has requested 4 million, 100 thousand dollars to build two new dormitories to house an additional 96 inmates serving long term sentences. Yet OTIA has not made this request in your fiscal year 1986 budget.

Without this additional money, how does OTIA expect Guam to meet this need for additional inmate accommodations?

Answer: We believe that an emergency situation exists at the penitentiary. Only the local government has the capability to respond to this situation in a timely manner. We understand that the Governor is requesting $2.3 million for new penitentiary construction in Guam's FY 1986 budget. Leaders of the Guam legislature have informally expressed support for such a local appropriation.

Guam Water System

Question: With the help of OTIA, water experts from the Bureau of Reclamation have been stationed on Guam to work with local officials to develop a plan to solve the island's water problems. The initial assessment of these experts is that the greatest problem on Guam is the distribution of water and not the source of water supply.

You have requested 1 million, 650 thousand dollars to begin the process and improve the system in fiscal year 1986. This money will be used to replace the eight-inch pipe with twelve-inch pipe in a water transmission line running from Malojloj to Inarajan. Except for the this section, the entire line is made up of twelve-inch pipe. Can you explain the total cost of the project and the time frame involved?

Answer: The cost of the Malojloj - Inarajan transmission line was based on engineering estimates developed by the Public Utility Agency of Guam (PUAG). PUAG engineers were responsible for determining the size of the new pipe and the most efficient routing of the pipeline. Since our budget was formulated, the Government of Guam determined that the Malojloj - Inerajan transmission line was of such high priority that it could not wait for enactment of a Federal appropriation. A local appropriation was enacted to fund the project.

The Department would prefer that the funds included in the President's budget be used for other high priority water projects. The second and third projects on Guam's priority list, "Development of Agana Springs Wells with Pump Station, Reservoir and Pipeline," and the "Macheche Water Transmission Line" are both important projects that could be funded within the $1,650,000 included in the budget request. Design and construction could begin by January 1986 and be completed within 18 months.

Question: Even though the distribution of water is a larger problem then the source of water, what plans do you have to improve the sources of water?

Answer: In general terms, the Department and its Bureau of Reclamation believe that transmission and distribution of water are a higher priority than developing new water sources. There are, however, individual projects, that are an exception to this rule. In a letter to the Guam legislature dated April 25, 1985, the Guam Study Coordinator for the Bureau of Reclamation pointed out that the Bureau of Reclamation supports the development of Agana Springs (referenced in the previous response) and further development of the northern groundwater lens. Studies have shown that the northern lens, including Agana Springs, could provide all the domestic water needs for Guam for the next 25 years and possibly the next 50 years. The Bureau of Reclamation does not support development of surface water supplies in Southern Guam such as Laelae Springs, the Inarajan River Water Treatment Plant, and the Le Sa Fua River Water Treatment Plant. The water from these sources is of much lower quality and would require additional treatment, which is not necessary, given the adequacy and higher quality of northern water sources.

Question: At last year's hearing, you indicated that until the water master plan is re-written it would be "premature to fund the major or long-range improvements that are included in the Guam request."

How far along is this re-write?

Answer: The Bureau of Reclamation engineer arrived on Guam in January 1985 to work with the Public Utility Agency of Guam for a 2-year assignment. The engineer is responsible for the following: (1) inventorying hydraulic failures occurring since January 1983; (2) developing a computer program to model PUAG's distribution system; (3) updating the 1979 water facilities master plan; (4) reviewing and recommending capital improvement projects; and (5) performing special assignments, such as devloping a master metering program.

The revisions to the master plan are scheduled to be completed by September 1986. During this interim period, the Bureau will provide technical reviews and comments on capital improvement projects proposed by the Government of Guam.

Question: Also at last year's hearing you indicated that you would try to provide "immediate help" for the water system, "through a series of reprogrammings."

What was the total amount of these reprogrammings?

Was this enough to solve the immediate problem?

Answer: A total of $2,435,000 was reprogrammed for water projects in FY 1984. These reprogrammings provided $2 million for replacing transmission lines carrying water to Southern Guam; $375,000 for the drilling of 4 wells in Southern Guam and $60,000 to complete construction of a northern district waterline. It was sufficient to alleviate immediate problems in Southern Guam, but not to solve the overall water supply problems.

Question: Obviously, this problem will not be solved overnight. Your budget indicates that FY 1986 funds will begin the process and improve that system during 1986. In the meantime, "greater emphasis must be placed on finding new sources of capital funding within the local government and from the private sector."

Can you explain what you mean by "new sources of capital"?

Have funding sources for the entire projects been sketched out?

Answer: We believe the Government of Guam should be leveraging funds through a combination of bonding and private investment and using local revenues and user fees for improving the water system. Direct federal grants should be used to complement other forms of financing. We are pleased that the Government of Guam did appropriate local funds for water projects during the past year. The 1979 water facilities master plan estimated total costs for Guam water systems improvements at $69 million. Funding sources for the entire list of projects have not been sketched out.

Mental Health Facility

Question: Guam has requested 4 million, 390 thousand dollars to construct a mental health, alcohol and drug abuse facility. Currently, mental health services are being housed in the old Guam Memorial Hospital. This facility is dilapidated and does not meet fire safety codes.

What is the Department's assessment of the needs for these facilities?

Is it economically feasible to renovate the old facility?

Answer: The mental health, alcoholism, and substance abuse treatment facilities are currently located in old Guam Memorial Hospital Much of the old hospital was determined by the Joint Commission on Accreditation of Hospitals to be structurally unsafe and represented health and safety hazards.

Having visited the current mental health facilities, the Department is sympathetic to the need for a new building to house these services. However, the Federal Government has provided $6.61 million of the $10 million authorized for health care over the past few years. The Department believes the Government of Guam should demonstrate a commitment to improved health care by providing local funds for this project prior to consideration of any additional funding.

Guam Hospital Repair

Question: Last year 5 million, 610 thousand dollars was provided to repair the Guam Memorial Hospital. This money was to be spent on a priority basis, emphasizing repair of those portions of the hospital considered to be structurally unsafe, followed by other renovation efforts necessary to regain and maintain accreditation.

What is the status of this work?

Answer: Guam Memorial Hospital (GMH) is currently preparing a financial plan for use of the $5.6 million and is soliciting architectural and engineering services. GMH will place emphasis on those repairs necessary to regain accreditation and repair structurally unsafe areas.

Question: Has the hospital regained its accreditation?

Answer: No. The necessary renovations cited by the Joint Commission of Accreditation of Hospitals must occur before the Commission will be asked to conduct a review for reaccreditation.

Question: If not, why wasn't additional money requested to continue work so accreditation could be regained?

Answer: The $5.6 million is sufficient to consolidate operations and make the repairs necessary to regain accreditation.

Guam - Navy Power Pool

Question: Would you explain the current situation between the Guam Power Authority and the United States Navy?

Answer: The Department recognizes the need and agrees with the intent of Congress to see a customer-supplier relationship established between Navy and Guam Power Authority (GPA). The power pool agreement has been the subject of debate for many years. The differences of opinion on equitability of the agreement and the tenuous nature of the authority has created much tension and a lack of cooperation between the two parties.

The process of developing a statement of work for the solicitation for an independent third party was challenging, but worthwhile because it required cooperation by all parties. While it may take some time to dispel institutional biases between the two parties, we believe the process has begun.

Question: Do you intend to submit a supplemental for a refinancing package?

Answer: A supplemental request for the interest rate differential and premium has been prepared and is awaiting final clearance from the Office of Management and Budget.

Question: What action have you taken with last year's language relating to an independent review of the power pool agreement?

Answer: The Department of the Interior has solicited proposals for an independent third party to identify financial, management and service criteria for GPA and to develop a plan with performance standards and milestones for the transfer of control of island-wide power system to GPA. Navy, Guam Power Authority and Interior jointly developed the request for proposals. A contract should be awarded by June 1 and the study results and plan will be ready for presentation to the Congress in March 1986. The contract will provide for a subsequent 12-month review by the independent third party to determine if performance standards and milestones have been met.

Joint manning of the dispatch control center will not be accomplished by July 1985. Navy has ordered the additional operating equipment for the center, but it has not been installed. We cannot at this time predict when the task will be completed as we anticipate numerous delays due to disagreements between Navy and GPA on equipment installation, training requirements, and operating procedures. We trust that the independent third party will assist in resolving these issues.

The report language states that military owned power generating and transmission facilities and easements should be transferred or made available for use by GPA free of charge. Under existing Federal procurement regulations and Navy contracting procedures, this will not be possible. Further legal authority from Congress would be necessary to allow use or transfer at no cost.

American Samoa Power

Question: 1 million, 600 thousand dollars was funded in fiscal year 1985 for the final capital investment of the heat recovery systems for new gas turbine engines.

Given proper operational management and maintenance of this system, how long will this increased power capacity be adequate?

Answer: The installation of the two turbines and heat recovery system will provide 8 MW of power to the existing system. With the retirement of several outdated units, the American Samoa Power Authority will have approximately 28 MW of power with a peak demand of 14 MW.

Considering normal wear on the older units and an average growth in demand, these units should be adequate for the next four to five years. During the interim, the American Samoa government should initiate the establishment of reserve funds to obtain new generating equipment in the future and explore the possibility of private sector involvement in the power operations.

American Samoa Capital Improvements

Question: You are proposing an increase of 3 million, 746 thousand dollars for construction grants in fiscal year 1986. Because of its tremendous potential for growth and development by business and industry, you are emphasizing the commercial port area.

How much of this money will actually be spent on the commerical port area and what additional capabilities will this provide for American Samoa?

Answer: The request includes $1,500,000 for relocation of government offices, $1,500,000 for water system improvements and $746,000 for road improvements. The $746,000 for road improvements and $200,000 of the water system funds will be spent directly in the commercial port area. The $1,500,000 for government office space will be used to relocate government offices out of the commercial port area.

Traffic congestion will be relieved and safety improved in the business districts; valuable commercial space will be freed-up in the port area for business expansion; and additional water will be supplied to the tuna canneries to support increased production.

Question: What will be done with the remainder of the 3 million, 746 thousand dollars?

Answer: The remaining money will be used to increase the water supply to the underdeveloped eastern villages of Tutuilla (the main island of American Samoa). This will encourage movement of people and businesses to that area.

American Samoa Water System

Question: You have requested 1 million, 500 thousand dollars to extend the water system in American Samoa from Aua to Aumi. Five thousand feet of eight inch pipe and 19 thousand, 800 feet of twelve inch pipe will be used.

I note that in Guam you are replacing eight inch pipe with twelve inch pipe.

Is the demand in American Samoa that much lower in the area receiving the eight inch pipe?

Answer: Yes, this is an underpopulated and underdeveloped area. Even the supplying of additional water will not raise the development of the area to the level of commercial and residential use in Guam.

Question: The total cost of the Guam project is 1 million, 650 thousand dollars to install 22 thousand feet of pipe, or 75 dollars a foot. In American Samoa you indicate that it will cost 960 thousand dollars to install 24 thousand, 800 feet of pipe, or 38 dollars a foot.

Can you explain the discrepancy?

Answer: There are significant differences in the size of the pipe, the cost of labor and the type of terrain over which the pipelines run. Also, the Guam pipeline will require many more appurtenances, particularly valves and hook-ups, because of Guam's greater population.

Question: You have requested 590 thousand dollars for 19 thousand, 800 feet of eight inch pipe at a cost of 34 dollars a foot. Our math indicates that this should be 594 thousand dollars.

Is there a typographical error in the justification or is 590 thousand dollars really the correct number?

Answer: The difference of $4,000 is due to rounding. Neither the estimates of linear feet nor the cost per foot are precise numbers.

American Samoa Recreation Centers

Question: The Governor of American Samoa has requested funding for the construction of four recreation centers.

What is the Department's assessment of the needs for these facilities?

Answer: The Department does not believe that this project is high priority for Federal funding. We prefer that Department of the Interior grants be used for projects that promote economic development (e.g., water, power, road) or projects that meet direct needs for health and safety. We do not question the importance of recreation buildings, other than their relative priority; but believe these are the types of projects that can be built with local funding or self-help in the form of community involvement.

American Samoa Government Operations

Question: Why was there no inflation adjustment for American Samoa's operations funding?

Answer: The Department believes that any increases in the cost of government caused by inflation should be offset by improvements in efficiency and productivity or by increased local revenues from user fees or economic growth. If the Federal government continues to budget the subsidies for territorial government operations on the basis of inflated dollars, it takes away an important incentive for the governments to become more efficient or to choose priorities within their available resources.

Northern Mariana Islands Covenant Funding

Question: Fiscal year 1985 is the seventh and last year of funding under the formula defined in the Covenant to establish a Commonwealth of the Northern Mariana Islands. Provisions were made for the formula to continue until Congress appropriates a different amount or changes the formula. According to your justification, fiscal year 1986 estimates are based on the original formula.

In fiscal year 1984, the Department initiated meetings with the Northern Mariana Islands Government to establish a methodology to determine future Covenant funding. The budget indicates that these meetings will result in recommendations for a new funding formula to be presented to Congress by the end of fiscal year 1985.

Can you give me an indication how these meetings are going and what sort of a recommendation will be made?

Answer: Significant progress has been made during our discussions on the future level of financial assistance he Northern Mariana Islands. The President's representati the delegation designated by the Governor of the Northern M s have reached agreement in principle. However, it is prematu discuss specific items until the document incorporating the agr in principle is complete.

Question: Is there a chance that these meetings w ead to a recommendation before the end of fiscal year 1985?

Answer: It is our intention to present our recomm ion to Congress prior to the end of fiscal year 1985.

Question: If so, would it be your intent to amend fiscal year 1986 request?

Answer: Our intent is to reach an agreement withi e dollar amount budgeted for FY 1986. However, the mix of funds hin the budget is likely to change.

Northern Mariana Islands Hospital

Question: Last year, 7 million dollars was included in the fiscal year 1985 appropriations bill for the third phase of a construction grant to complete construction of, and provide equipment for the Northern Mariana Health Center on Saipan.

Last year, the Committee indicated that if the 7 million dollars was not adequate to complete the project, necessary and unanticipated expenses would be considered in future years.

What is the status of this project,

Answer: As of April 30, 1985, the hospital was 37 percent completed. The pace of construction has increased substantially and the project should be completed early in 1986.

Question: Do you anticipate that there will be any unanticipated expenses? If so, are these indicated in the 1986 request?

Answer: We do not believe there will be any unanticipated construction costs. Most of the actual construction has already been contracted at a considerable savings from the government's estimates. Remaining contracts include medical equipment and furnishings. Many of these items will be purchased through the General Services Administration at lower-than-market prices.

Northern Mariana Islands Water System

Question: In fiscal year 1985, 2 million dollars was provided to begin improvements to the water distribution system. You have requested 2 million, 850 thousand dollars in fiscal year 1986 to continue this effort.

Of the fiscal year 1986 request, 1 million 750 thousand dollars will be used to replace approximately 21 thousand linear feet of transmission lines between the Agag well field and the Capital Hill reservoir and the replacement of the distribution lines and reservoir on Capital Hill.

What are the long term plans (cost and time frame) with respect to the water system?

Answer: None of last year's funds have been spen s far. In February, the Department stationed an engineer on Sa to work with local public works personnel to define projects ar velop a priority plan for construction of water improvements. ntly, three transmission line projects were identified for in iate construction using the FY 1985 appropriation. The Nort n Marianas have projected a need for approximately $28 million ove he next seven years to rebuild the water system. The Departmen engineer is working with the NMI government in reviewing this pl and developing good cost estimates and construction priorit s.

Question: How much of this will be paid out of co nant funds and how much will be paid by the Northern Marianas Gove ment?

Answer: During the first seven years of the Coven nt, no local funds were used for water improvements or any other cap tal projects. We expect that during the next seven years, ufficient funds will be provided through the Covenant to complete all current water improvement needs, if the money is leveraged properly and used in conjunction with private investment.

Northern Mariana Islands Hospital

Question: In last year's report the Committee acknowledged that the contracting efforts of the Northern Marianas Government have resulted in a cost savings of approximately 3 million dollars on the Saipan hospital.

Do you anticipate any additional cost savings? If so, how much do you anticipate they will be and are improvements in the water system still the top priority for these funds?

Answer: The major hospital construction contracts have been awarded so we do not anticipate any additional significant cost savings. Improvements to the water system are still our top priority.

Question: At last year's hearing I was concerned about the staffing of the Saipan hospital. At that time, you indicated that you have authorized 125 thousand dollars to provide a staffing study and 100 thousand dollars to provide some key staffers.

Is the staffing study complete?

If so, how are the recommendations being implemented?

What additional plans do you have to solve this problem?

Answer: The staffing study was completed in August 1984 and several key staff members have been hired to help in the transition to the new hospital. We are meeting quarterly with the officials from the NMI and the Public Health Service to address the recommendations made in the study.

The largest single problem is the significant increase in operating costs that the NMI must absorb when it moves into the new facility. The NMI has committed to using all of the interest (approximately $2.5 million annually) from its public land trust to help meet the increased operating costs. We have committed to a major technical assistance effort again in FY 1986 to help with the transition.

Other problems that are being addressed include obtaining Medicare/Medicaid certification; establishing a new fee structure for the hospital; privatizing administration and maintenance of the new facility; and reducing medical referral costs.

Northern Mariana Islands Power

Question: The Commonwealth has requested the remaining 7 million of the 12 million dollars authorized in P.L. 95-348 for additional power generating capability for Saipan and Rota power plants. I understand that the four generator units in Saipan are currently operating at full capacity and 5 million dollars would be used to purchase a fifth generator. CNMI has also requested an additional 4 million dollars for the expansion of electrical production and the hardening of the distribution system.

What is the Department's assessment of the requests?

Answer: OTIA has encouraged the NMI to create a public utilities commission and to adjust their power rates from 8 to 9 cents to actual costs of 13 to 14 cents, especially for the commercial sector. We have also encouraged the NMI to explore various proposals from private sector companies who have offered to invest in the power facility.

The NMI can dedicate a portion of their Covenant resources to increasing capacity and initiating a pole-hardening program.

Technical Assistance

Question: You have requested 2 million 200 thousand dollars for technical assistance in fiscal year 1986, a decrease of 2 million 700 thousand dollars from the fiscal year 1985 appropriated level. According to your justification, this decrease reflects continuation of a large number of ongoing multi-year technical assistance projects in which sufficient funding was provided in fiscal year 1985.

What are these ongoing projects and how much fiscal year 1985 funding will be available in 1986?

Answer: The major ongoing projects are as follows:

- Financial Management Systems in TTPI, NMI and American Samoa. We anticipate initiating a similar effort in the Virgin Islands this year.
- Automation of tax system for Guam and Virgin Islands (the Guam project was initiated in 1984).
- Assistance for management and administration of hospitals in NMI and Marshalls. We anticipate helping American Samoa and Truk this year.
- Continuation of police training program initiated in 1983 for three Micronesian governments.

Question: Do you anticipate spending all the technical assistance money that is available in fiscal year 1986?

Answer: We anticipate obligating all of the FY 1985 technical assistance funds in FY 1985.

Question: Are you telling me that even if you had additional funding, you couldn't spend it effectively.

Answer: No, we endeavor to spend Federal funds in a prudent and effective manner. The use of technical assistance funds has been extremely successful when measured by the accomplishments of the program. However, we believe that $2.2 million will be sufficient to fund the high priority technical assistance projects for each island.

Question: Under the Compact of Free Association, the free associated states will continue to be eligible for the technical assitance program.

Did you include the technical assistance needs of the FSM and the Marshalls in your funding request for this program?

Answer: We have reserved funds for continuation of our financial management and police training programs and will consider additional requests.

Question: I understand that there are serious problems with the financial planning, technical assistance projects in the Marshall Islands and the Federated States of Micronesia. Because these governments may be soon receiving substantial Compact funding, I believe that it is essential that they have reliable financial systems.

Can you explain the nature and reasons for these problems and what the Department is doing to correct them?

Answer: We have encountered some major problems in the state of Ponape, but the remaining systems are operating in a satisfactory manner. Improvements are needed in all areas and our initial plans provided for:

1. installation of the systems for accounting and reporting purposes;
2. use of data by managers in their decision process, and
3. automation of non-financial data requirements.

The success of the systems varies from location to location, depending on a number of factors, i.e., quality and skills of advisors and local finance people, dedication by the governments to using the system, and the unique requirements of a site. We have experienced several problems in Ponape relating to quality of staff and an inadequate amount of training on our part.

Question: Was the software for the financial system tested before the system was installed?

Answer: Yes, the software was tested and is currently used at 37 locations in the U.S. mainland and on Wang Computers at 25 of these locations. In addition, many of the users are small counties and cities with budgets of similar size to the Micronesian governments. However, even when fully tested, there are always problems that are unique to a specific site. In almost every instance, these are minor and can be corrected easily.

Question: How many modifications have had to be made to the software since the systems installation? Please provide for the record what modifications were made.

Answer: Since initiating the software system in 1983, there have been approximately four site modifications to the system to provide an updated version of comprehensive Purchasing and Accounts Payable System (CAPPS). Approximately fifteen additional modifications are to be made as part of the software company's continuing efforts to improve and tailor the system, to the needs of each government.

Question: To date, has any useful financial information been generated?

Answer: Yes, useful data has been generated. The entire payroll is on the system. Palau has used the system to increase its revenue (utility) collections. However, managers are not yet using the data in an effective manner. We are concentrating our efforts on training and reports for system users.

Question: Have updated operating manuals, containing modifications been made available to government personnel?

Answer: Updated manuals are in the process of being prepared for each location. A large public accounting firm prepared the original manual for the system. In addition, we are preparing desk top procedures for the accounting and fiscal staff.

Question: Is there a consultant available to answer questions and explain the new system to government employees who will eventually operate the system?

Answer: Yes, in addition to OTIA personnel, the hardware and software companies are available to assist the governments. Several training sessions and site visits were held during the past year. The hardware people make scheduled monthly visits to each location. A phone call to the software vendor should resolve most problems. One of the keys to success of a system is the quality and skills of the advisors. The local governments have been responsible for hiring many of these people.

Question: Will the Department's technical assistance continue to be available until the system functions properly.

Answer: Yes, we are planning to assist the governments until the systems are fully operational.

Question: Are you aware of any municipalities that are operating a similar system?

Answer: Yes, the system is operating at 37 locations in the U.S..

Capitol Relocation

Question: You indicate in your request that the "Department believes that the United States has met and exceeded its commitment for pre-Compact construction of capital improvements" Any improvements to the capital infrastructures will be met by the inclusion of capital accounts in the Compact. You state further that the United States is committed to contribute a total of $21 million dollars to the three Micronesian governments for relocation of capitols. What is the Department's time frame for the funding for these capitols?

Answer: Because of the overall Federal deficit problem, the Department was unable to budget for this commitment in the FY 1986 budget. We will examine this commitment again in the FY 1987 process and, if possible, will fund the relocation of the capitols then.

Compact of Free Association

Question: Your justification indicates that the Department continues to phase down Trust Territory operations in anticipation of a Compact of Free Association for FSM and the Marshalls being implemented by October 1, 1985. During fiscal year 1985, the Department is developing and implementing a plan to reorganize and relocate the Trust Territory Government.

As Chairman of the Energy and Natural Resources Committee, I have a keen awareness of the timing involved with the passage of the Compact.

In the unfortunate event that the Compact doesn't pass by the end of this fiscal year, will you still be in compliance with your legal requirements?

Answer: The Trust Territory government is staffed adequately to serve all three Micronesian governments under the existing trusteeship. Sufficient personnel will remain on board to ensure that all legal requirements of the trusteeship will be complied with.

Question: If the Compact runs into some unforeseen opposition and gets tied up in Congress or if Congress adjourns for the session without finishing work on the Compact, what would be your intent with funding for FSM and the Marshalls? Would you request supplemental funding?

Answer: If the Compact is not implemented before the beginning of fiscal year 1986, the Department will support an amendment to the President's 1986 Budget. The amendment would be sufficient to provide for continuing government operations in the FSM and the Marshalls at current levels. We estimate that this would require additional funding of $55 million over our current request.

Question: Would the phased down Trust Territory operations be phased in again?

Answer: No, the Department feels that the number of employees that will be on board with the Trust Territory government will be sufficient to handle any and all responsibilities that will be required of that Office.

Question: Is it your intent to keep the Trust Territory Administration in Saipan until the Compact passes?

Answer: Yes, that is our intention.

Operations and Maintenance

Question: Under Operations and Maintenance, you have not requested any funds in fiscal year 1986. Appropriations over the last three years have totaled over $20 million dollars and, according to your justification, more that $11 million of this money is still unobligated. Therefore, instead of requesting additional funding for this fiscal year, the Department is proposing to concentrate on expending the available funds. How much of the $11 million dollars is obligated?

Answer: To date, approximately $200,000 of the $11 million has been obligated with an additional $3,000,000 in process. Most of the balance will be obligated before the close of FY 1985. The program, because of the late start in FY 1983 is about one-year behind schedule. Most of the governments have been slow in preparing acceptable plans for the use of these monies.

Question: Specifically, how much of this unobligated balance do you intend to spend in fiscal year 1986?

Answer: The majority of the funds will be obligated in FY 1985, and will be expended during FY 1986.

FSM Power Project

Question: What is the status of the eight Alco generators which have been ordered for the Federated States of Micronesia (FSM)?

Answer: Two engines are in California undergoing overhaul and the remaining six are in transit. The estimated completion date is August 1985, at which time, we will transport the engines to Micronesia.

Question: Why has it taken nearly two years and the generators still aren't delivered?

Answers: The procurement process was initiated in June 1984 and a final contract signed in March 1985. It also took the FSM several months to make the final decision on whether they wanted the engines. To this date, Truk still is not certain that they want these engines.

Question: Have any engineering studies been done to determine what is required to move the generators from the ship they will be delivered on to their final destination and then installed.

Answer: There are no major difficulties in moving the engines from the ship and/or a barge. In the latter case, a crane will be mounted on the barge and units placed on special flatbed vehicles and towed to the site. If the engines are moved from a ship, the shipping company will remove the engines in the same manner that the IPSECO units were off-loaded in Palau.

Question: How much will be required to move these from the ship and get them installed? How much is available to do this?

Answer: Exact estimates are not available at this time but OTIA has reserved $800,000 for transporting and installing the units. Our power advisor, Mr. Jim Carriere, assures us that this is sufficient for the job.

Question: Does the Department anticipate requesting funds for the switching and distribution equipment needed to utilize these generators?

Answer: No, switching gear and transformers are included as part of the contract. This equipment will be sufficient to interface with the existing distribution systems.

FSM Infrastructure Projects

Question: The Federated States of Micronesia considers ongoing infrastructure projects to be commitments made outside of the Compact of the Free Association. Accordingly, they have requested $5 million, 800 thousand dollars for the completion of road construction; $2 million, 200 thousand dollars for electrical equipment to utilize the Alco generators mentioned before; and completion of the Wichen river water project on Truk. Yet the Department has not requested funding for any of the projects.

Why does the Department not consider these commitments outside of the Compact?

Answer: The Department does not consider any of these projects to be ongoing. The full scope of all projects included in the pre-Compact capital improvement program has been funded. These projects represent additions to the scope of projects that were included in the capital improvement plan. As such, they should be funded from the capital accounts of the Compact, if they are of sufficiently high priority for economic development.

Palau Tax Bill

Question: You indicated that the potential exists for increased local revenues on Palau and unless additional revenues are realized, the Republic could face a serious deficit problem in 1985 and 1986. To help this situation, the national legislature for

Palau passed a comprehensive tax bill in fiscal year 1984. Can you describe this tax bill?

Answer: The tax bill included several measures that increased the revenue of the Palau government. Specifically, these were:

- a 100% increase in the tax on incomes over $8,000,
- a $3 departure tax on tourists, and
- imposition of a room tax on hotels.

Question: What role did your Department have in this tax bill?

Answer: The tax bill had the Department's strong support. Passage of the bill was essential in order for Palau to begin meeting its financial obligations.

Palau Power Plant Loan

Question: On March 8, 1985 and April 9, 1985, Palau defaulted on over $30 million dollars of private loans. These loans were made for the construction of a power plant. Can you explain what the circumstances were surrounding this default.

Answer: Although, OTIA was never shown the details of the loan agreements, it was apparent that Palau could not pay for loans of this magnitude with their existing revenues. The problems was exacerbated when Palau failed to resolve its constitutional problems and could not be included in the pending proposal for a Compact of Free Association. Palau has been meeting with the banks in an attempt to negotiate a refinancing arrangement. However, these meetings are being conducted with Palau in a difficult bargaining position, due to the uncertainty of Compact funding.

Question: What was the U.S. Government's role in this loan?

Answer: The United States Government was never directly involved in the loan process. Republic of Palau officials notified the Office of Territorial and International Affairs of their intent to secure a foreign loan for the power plant project. However, OTIA was never given any specific details, financial or otherwise, regarding the contract to construct a power plant or the loan agreement. OTIA advised Palau that it felt they were making a mistake and later advised Palau that Congress was offering them an alternate power plant, if they decided against the IPSECO deal. OTIA was finally notified several months after the fact that the deal had been consummated.

Question: What is the most likely scenario for Palau and the U.S. if the loan continues in default?

Answer: Under the loan arrangements, a default in interest payments placed the entire loan in default and required the guarantors to honor their guarantee by paying off the original lender. This has been done and the guarantors, consisting of Morgan Guaranty & Trust (U.S). Morgan Grenfell Ltd. Co. (U.K.), Banks of Scotland, Royal Bank of Canada and the Bank of Tokyo have now assumed the loan. Since Palau is in default, they can foreclose and file suit against Palau and attempt to seize its assets. Palau's ability to transact business internationally could be impaired and successful attachment of assets could affect governmental functions. The Department of the Interior is committed to ensuring adequate power in Palau through rehabilitation and proper maintenance of the existing power plant. The Department has also offered to provide Palau with technical assistance in the form of financial expert(s) to assist in arranging for refinancing and helping Palau prepare an achievable schedule of payments. The Department is adamantly opposed to the U.S. accepting any direct responsibility for payment of the debt.

Palau Reprogramming

Question: It is my understanding that Palau has requested a reprogramming of 1983 funds to construct more electrical transmission lines. These additional lines are designed to allow Palau to finish the project and thereafter generate additional revenue to allow the project to come closer to being self-sustaining. What is the status of the reprogramming?

Answer: In a meeting with the Republic of Palau's Vice President and Minister of Administration, the Assistant Secretary for Territorial and International Affairs informed them that he could not approve or support the proposed reprogramming. This project and its financing through foreign loans were entered into against the advice of the Department. It would not be appropriate and would establish a poor precedent for the Department to now provide direct financial support for the project by agreeing to reprogramming funds that were appropriated for needed water improvements.

Question: Can you explain the current financial situation and how this reprogramming will make the project self sustaining?

Answer: Because of Palau's default on the original loan for construction of the power plant, bankers will not lend the additional money needed to hook the plant up to the existing distribution system. Palau is seeking a grant from the Government of Japan as an alternative means of financing the transmission lines. However, the project may never be self-sustaining. Rates would have to exceed 30¢/kwh to cover all costs including debt service. Unless the new plant is tied in to the existing distribution system, no revenues at all can be realized from the investment.

Question: Are any of the other territorial governments negotiating similar loans?

Answer: Yes, the State of Truk in the Federated States of Micronesia and the Island of Rota in the Northern Mariana Islands have been considering similar power plants and financing arrangements.

Section 936 Internal Revenue Code

Question: I don't know if you will know the answer to this question Mr. Montoya, but I want to ask it with the hope that I will be heard by someone.

Part of the Treasury's tax simplification proposal includes the repeal of section 936 of the Internal Revenue Code. This section of the tax code provides a credit against federal tax on income derived by United States corporations from sources in Puerto Rico. The Treasury plan would replace section 936 with a temporary scheme culminating in the complete elimination of any tax preference for Puerto Rico. Do you know if this proposal will also be a part of the revised version of the Treasury tax plan?

Answer: Sections 936 and 934(b) are important to the other U.S. territories. We have met with Treasury and sponsored meetings between territorial governors and their revenue and taxation directors and Treasury. We do not know what revisions are planned but Treasury does have a better understanding of territorial needs to attract and maintain American investors.

Question: What would be the impact on the Puerto Rican economy if section 936 is repealed?

Answer: Congress in previous tax reform legislation, has tightened up Section 936. According to Puerto Rico, the input of complete elimination of Section 936 will be significant.

Question: How much additional revenue would this proposal generate?

Answer: We do not know the amount of additional revenue the U.S. Treasury would collect with the elimination or replacement of Section 936.

Question: How much revenue would the proposal generate if American companies currently located in Puerto Rico decided to move out?

Answer: We do not know the amount of revenue the U.S. Treasury would collect with the elimination or replacement of Section 936.

Micronesian War Claims

Question: Public Law 95-134 provided that war claims adjudicated and awarded by the Micronesian Claims Commission under the Micronesia Claims Act of 1971 are authorized to be appropriated provided that the Government of Japan has contributed goods and services to the Trust Territory of the Pacific which the Secretary of Interior determines to be not less than 50 percent, minus 10 million dollars, of the total adjudicated claims and awards. Mr. Secretary, what is the amount of all adjudicated claims and final awards made under Title I of the Micronesian Claims Act?

Answer: Total adjudicated claims and awards under Title I of the Micronesian Claims Act are $34,349,509.

Question: What have you determined to be the contribution of the Government of Japan to the Trust Territory of the Pacific to date?

Answer: Japan's original 1969 payment plus interest was $6,742,000. Some Japanese goods & services might qualify as further payment. We are seeking information from Japan on the value of these goods & services through the Department of State.

Question: At what time in the future do you expect the Japanese contribution to reach the required level to authorize appropriations?

Answer: We do not know at this time, but may be in a better position to estimate after we hear from Japan.

Prior Service Benefits

Question: Last year this Subcommittee supported appropriations to establish a trust fund to pay prior service benefits. However, the House deleted these funds and requested the Department do a study of the funding options.

Answer: The Department has completed a review of funding options for the prior service benefits program. A final report will be submitted to the Subcommittee before the end of the fiscal year.

Question: Could you please briefly outline for the Committee the study's conclusions on the most cost effective way of meeting prior service benefit obligations?

Answer: The Department's review of the program focussed on studies conducted by the Trust Territory Social Security Administration. The primary conclusion of their study was that a lump sum payment of approximately $13.7 million would satisfy all funding requirements for the life expectancy of the program. This estimate was computed by using a real interest rate of 2 percent (the difference between current rates and planned annual increases in benefits). Since no increase in benefits was provided for when the program was established, the Department believes that increased benefits should not be built into calculations of future payments. The present value of the program should be determined merely by discounting the payment stream using current Treasury Bill rates. Using this method, the net present value of the benefits is estimated to be $6 million. A trust fund in that amount, along with a statement that the Federal government assumed no additional liability for the program, would probably be the most cost effective method of funding. However, the Department is opposed to any post-Compact funding of the program. Since this program was established by the Congress of Micronesia, the Department believes that Micronesian governments should assume the total responsibility for the program. There are sufficient Compact funds available for this to be done if the governments so choose.

Fishery Zones

Question: Mr. Montoya, one of the greatest resources of the Pacific Insular areas are their respective 200-mile fishery zones. Yet, I understand that they have essentially no boats or planes to enforce regulations to prevent illegal fishing by foreigners.

What has the Department done to assist these territories in fisheries enforcement?

Answer: The lack of sufficient resources to provide adequate enforcement of local law in the 200 mile fishery conservation zone is recognized in the proposed Compact of Free Association.

However, government operations funding provided to the Micronesian governments in the Department of the Interior budget has been available to the local Micronesian governments for such actiivities. The FSM, for example has contracted with private sources to provide sea and air surveilance of their fishing zones and have increased such activities in recent months.

Question: I understand that vessels seized by the Drug Enforcement Administration are available, free of cost, to other agencies of the Federal government.

Have you made any effort to determine if vessels are available to meet territorial fishery enforcement needs?

Answer: The disposition of ships and/or aircraft acquired by the United States in drug enforcement actions is similar to the story about how one can obtain surplus government jeeps for pennies on the dollar. As your question indicated, federal agencies have the first opportunity to acquire such surplus property. However, most of the equipment acquired is not modern equipment and cannot meet the minimum safety requirements imposed by the Coast Guard or Federal Aviation Administration, and would cost more to bring up to standards than the vessel or aircraft is worth.

The Department of Interior has, however, in the past, assisted the Trust Territory in acquiring surplus government vessels and other equipment.

Question: Is it your understanding that fines assessed against illegal fishing vessels could actually generate a profit for enforcement activities?

Answer: We are not aware of the detailed financial operations of the enforcement activities of the respective Trust Territory governments. We are aware that large fines and other fees have been imposed on foreign fishing vessels found fishing illegally within the 200 mile zone. Such fees and fines would certainly offset the expenses of enforcement and further have resulted in other boat owners buying fishing licenses.

However, a major issue has been the efforts by the Federated States of Micronesia to impose jurisdication over tuna vessels within the 200-mile fishery zone. As you know, the United States does not recognize the right of any jurisdiction to restrict the taking of highly migratory fish (tuna) outside the territorial sea, or 12 miles.

QUESTIONS FOR TERRITORY AND TRUST TERRITORY GOVERNMENTS

Guam Penitentiary

Question: In April 1985, a fire destroyed a wooden modular structure which served as the Work and Education Release Dormitory at the penitentiary. This put an extra burden on the already overcrowded penitentiary.

Can you describe the problems this fire caused and how they are being solved?

Answer by Government of Guam: The fire has aggravated the problem of overcrowding and the health, safety and welfare of both the prisoners and their correction officers. As a result of the fire, the 18 inmates who were formerly housed in the Work Release Dormitory, are now being interned at the prison's woodworking and sheetmetal shop, which has been converted to a temporary dormitory. The "dormitory" has only one shower and one lavatory for the 18 prisoners. Security is lacking in the "dormitory" as there is no fence segregating the work-release prisoners from the general prison population. Such a security measure is necessary to preclude the introduction of contraband and for the safety of the work-release prisoners who have demonstrated their reliability and trustworthiness. Inmates under the work-release program are allowed to leave the facility for work and educational purposes.

As a result of the conversion of the woodworking and sheetmetal shop to a temporary dormitory, the machinery and tools of the shop have been moved to another section of the prison complex. Shop activities, which served 22 additional inmates, have been suspended indefinitely. Prisoners were provided rehabilitative skills in metal and woodworking, while producing handicrafts and wood-products for sale. Sale proceeds were deposited in their personal savings, which provided them with funds upon their release. The cessation of this rehabilitation program will inevitably cause morale problems among the prisoners, which may precipitate undesirable behavior.

In the past three days, a prisoner was strangled to death by other inmates. The continuing problem of violence and the growing unrest at the penitentiary are due in large part to prison overcrowding. Critical inadequacies in safety, health, rehabilitation and educational programs have only been further exacerbated by the fire.

Guam is actively looking for sources for funding. However, in view of budgeting limitations, other sources of revenues are unreliable, and, at best, doubtful.

Question: Guam's original penitentiary proposal submitted in 1979 called for a modern prison to house 266 inmates at an estimated cost of 10 million, 300 thousand dollars.

In fiscal year 1980, Guam received a grant of 6 million, 500 thousand dollars from the Department of Interior for the construction of the penitentiary. An overencumbrance in the project of 1 million, 800 thousand dollars was taken care of with a reprogramming in 1984.

P.L. 98-213 authorized an additional 4 million, 100 thousand dollars for the construction of additional prison facilities. In your request this year you indicate that this 4 million, 100 thousand dollars will not complete the penitentiary but it is sufficient to complete Phase II work.

Upon completion of Phase II work, how many inmates will the penitentiary house?

Answer by Government of Guam: One hundred sixty-six inmates total. However, twenty-two (22) of the total number of cells are used for preclassification.

Question: Please describe how the scope of the project has changed, how much it will now cost to complete, and how many inmates it will eventually house.

Answer by Government of Guam: In 1979, the cost of construction of the entire Guam Penitentiary facility master plan was estimated at $10.3 million. However, in the two (2) years that elapsed from the initial estimate to the actual contract bid, the Government's estimate was exceeded by $3.1 million, as shown below:

	(in millions)
1. Government Estimate (1979)	$10.3
2. Bid Response (1981) (includes $1.6M A&E)	13.4
VARIANCE	$(3.1)

It is important to add that the Government estimate in 1979 did not include inflationary adjustments. The subsequent bid response in 1981 reflects the changes due to such factors as inflation and labor market strains.

While it would have been more advantageous in terms of cost to have completed the penitentiary project in 1981, funding availability required the Government to undertake the project in phases.

Phase II assumes that construction costs have increased at an annual rate of approximately 12 percent. Taking the government estimate of 1979 and applying the 12 percent escalation factor, the revised penitentiary estimate, had no funds been allocated for Phase I, would have required $22.7 million to construct in 1986.

Total cost for completion of the master plan, as amended, will be approximately $16.3 million. This amount covers the following breakdown:

Total funding to date:	$ 8,358,459
FY 1986 CIP Request Phase II:	4,120,914
FY 1987 CIP Request Phase III:	3,812,054
	$16,291,427

When completed, the Guam Penitentiary will have a total capacity of 256 inmates. This will include the renovation of the present female unit from a capacity of 3 to 12 inmates and the continuation of the present Halfway House for 24 inmates.

Guam Power Authority

Question: What is the current position of GPA and the Navy with respect to ownership or control of the power distribution system?

Answer: The Office of Territorial and International Affairs, the Department of the Navy and the Guam Power Authority are now in the process of finalizing the solicitation and contract award for an independent third party to assess the current situation and capabilities of the Guam Power Authority and to develop a plan by which a customer-supplier relationship will be established between Navy and GPA. A contract award by the Department of Interior before the end of May is expected.

Presently, problems exist in the fullfillment of the demands of the Conference Report in various areas:

1. The joint manning which was ordered by the report language will not be instituted in July, as required by the report language. This is attributed to the delays in the purchase of keyed switches required to enable the GPA Dispatch Control Center to control Navy breakers and lines. The delay was caused by a disagreement between Navy and GPA on the placement of the switches and the fact that Navy was not able to finalize its proposals until January of this year, over 90 days after the passage of the legislation. At this time, GPA still disagrees with how the installation of the keyed switches will be performed, as there will be delays caused by the Navy's insistence that the work be performed in-house by Navy and that GPA secure a contractor for its portion of the work. GAO had suggested that both GPA and Navy secure a contract with a single contractor to handle the matter from start to finish. This would avoid confusion and delays caused by the contractor or in-house personnel having to wait for each other to complete its portion of the work. Navy disagreed with this plan from the beginning.

2. There will be, more than likely, disagreement over the overall supervision of the Dispatch Control Center once the joint manning scheme is in place. GPA will agree to the supervision, by Navy personnel, of the lines through the Control Center but GPA will not agree to relinquish the overall management of the Center to Navy at the inception of the scheme. The joint manning scheme was intended to be used as a period during which Navy

personnel were to train GPA dispatchers in the Navy dispatching scheme and vice versa, it was not intended to mean the takeover of control and management of the Dispatch Control Center by Navy personnel.

3. GPA views the report language as meaning that the transfer of control of the island-wide power system will be conducted in a phased manner in order to provide for a smooth transition. Navy has interpreted the language to mean that the turnover will occur on a specific date. The Navy interpretation will create problems in that an immediate turnover on a single date will be overwhelming and cumbersome. Along these lines, Navy has indicated that they interpret the report language to mean that the day GPA has met all of the performance standards and milestones, the transfer of control will take place. GPA has interpreted the report language to mean that as the Authority meets the various performance standards and milestones, those areas to which such standards and milestones apply will be turned over to the Authority. The problem of the meaning of phased transfer will shortly have to be addressed by Congress and an interpretation forwarded to the parties involved.

4. GPA interprets the report language to mean that Navy shall transfer the control, management, operation and maintenance of facilities, i.e., the transmission and distribution facilities not located within military reservations and not intended solely for emergency purposes for defense installations, and such transfer shall be without cost to GPA. The intent was to also include the use without cost of the Tanguission Power Plant which GPA presently operates but which is partially owned by Navy. Navy maintains that the report language does not authorize them to circumvent the requirements and mandates of the Federal Acquisition Regulations (FAR) and Navy Purchasing Manual by permitting or agreeing to permit the use of Navy facilities without assessing a charge according to formulas contained in such documents. GPA contends that the report language was very clear in that Navy facilities would be made available for GPA use without cost to GPA. Navy contends that the report language does not have nor does it amend or repeal the requirements of the FAR or Navy Manual nor does it permit deviation from the requirements of such regulations. It is the opinion of the GPA that Congress will have to be asked, very shortly, to enact legislation which will, in essence, exempt this particular project from the provisions of the FAR and Navy Procurement Manual in order that the report language will be enforceable.

As it presently stands, the independent third party will have to complete its plan within ten months of the award of the contract. During the ten months there will be three sets of review-and-comment meetings for the work to be reviewed by a panel consisting of representatives of the Navy, DOI and GPA. After the completion of the plan and presentation to the Secretaries of the Navy and Interior, the plan will be submitted to Congress for its review and approval.

Guam Revenue and Taxation

Question: I understand that the Government of Guam has failed to collect taxes legally due to it under the Gross Receipts Tax.

Why is the Government not collecting taxes while it is requesting additional appropriations from Congress?

Answer by Government of Guam: Economic policy must transcend tax policy. Since taxes were not imposed nor collected for an extensive period of time, to impose taxes retroactively on businesses which operated in reliance that there would be no taxes on sales "outside" of Guam, would constitute an extreme economic burden with potentially grave consequences that could severely cripple the financial viability and survival of the fledgling export and transshipment industry on Guam. The decision was incorporated in Public Law 17-50 exempting export sales from the retroactive application of the gross receipts tax. Additionally, there existed the possibility that those firms which had paid taxes prior to the passage of P.L. 17-50 would request reimbursement for taxes paid, negatively impacting on Guam's already weak financial condition. The expected impact to the General Fund from such a reimbursement was estimated at $3 to $4 million.

This decision on policy was supported by the following:

1. The Guam Legislature
2. The Executive Branch
3. Guam Chamber of Commerce
4. U.S. Department of the Interior

Question: Did the Government of Guam actually examine the tax records of businesses which claimed they would be forced out of business, or did the Government accept the business's own analysis of the situation?

Answer: No tax examination on export sales was made.

Question: I understand that many businesses did pay these taxes as required.

Isn't it inequitable to allow those who did not pay to be free from their legal obligation?

Answer: Those who reported and paid the taxes were correct in doing so. No audit examinations were made to determine those who did not report or pay the taxes.

Guam Water System

Question: The Department has requested 1 million, 650 thousand dollars to begin correcting critical water shortages problems on Guam. This however, will by no means solve the problem. Over a period of time, close coordination between all parties including the Government of Guam will be necessary. In the meantime, greater emphasis must be placed on finding new sources of capital funding within the local government and from the private sector.

Can you describe what the Government of Guam is doing to help solve this problem?

Answer: Guam's proposed water improvement projects for fiscal year 1986 addresses inadequate water services to areas where vital economic activities are being conducted. The proposal also seeks to address the development of additional water sources to meet increasing demands, to upgrade transmission lines for the transport of water, and to replace distribuition lines which have surpassed their useful service life.

In a determined effort to resolve its fiscal problems, PUAG is currently developing a proposal calling for an increase in rates assessed for water and wastewater services. The increases will only satisfy normal operations and maintenance needs. To meet essential capital improvement needs, a bond issue is being researched. However, any proposal which may cause an increase in utility rates, inclusive of the issuance of bonds and subsequent debt service requirements, must be reviewed and approved by Guam's rate-setting authority, the Public Utilities Commission.

In an effort to maximize agency revenues, PUAG is fine-tuning its own operations. The agency is aggressively pursuing collections of delinquent accounts, improving leak detections and repair-monitoring systems, and replacing defective water meters. These efforts are aimed at reducing the cost of operations and increasing revenues.

American Samoa Recreation Centers

Question: You have requested 1 million, 600 thousand dollars for four recreational centers. Can you give the Committee the details of this proposal?

Why are four necessary? What activities will they provide?

Answer by the American Samoa Government: The American Samoa Government is requesting the construction of four gymnasiums/recreational centers. Essentially, they are of the nature of a typical, modest, high school gymnasium, with athletic facilities including locker rooms and showers. Presently, in a climate where it rains 200 inches a year, our high school students have no indoor recreational facilities whatsoever. Some of our present youth-oriented social problems reflect a distinct lack of recreational opportunities after school hours. This manifests itself in anti-social activities in and about the schools (for example, a teen-age murder on the grounds of the vocational education facility occured about 2 months ago). We are suggesting four facilities so that each might be located at one of the four public high schools in American Samoa. We feel four smaller facilities will be much better utilized than a single, large facility, due to the localized nature of people's lives, and the distances involved in traveling on this island.

American Samoa Marine Railway

Question: Last year Congress provided 2 million dollars for the completion of the marine railway system. The Committee felt that this system was a critical element in American Samoa's effort to promote large-scale economic development. Last year, the Committee was supportive of finding a private contractor for operations of the new marine facility.

Please describe the current status of the marine railway system?

Has a private contractor been found for the operation of the facility?

Answer by the American Samoa Government: The new Marine Railway three-thousand ton drydock facility will be certified in May by Crandall Drydock Engineers. The entire Marine Railway facility has been leased to Southwest Marine of San Diego, under a 30-year lease pursuant to which the government will receive the larger of either $50,000 or 2 1/2% of the company's gross revenues from Samoa operations.

American Samoa Power System

Questions: In recent years, the construction in American Samoa has been concentrated on the power system in order to ensure reliable and continued electrical power for government, commercial and residential use. The power upgrade is near completion. According to the Department, the final capital investment of 1 million, 600 thousand dollars was funded in fiscal year 1985.

How long do you anticipate this will provide American Samoa with adequate power capacity?

Have proper operation, management and maintenance arrangements been made for this system to ensure that it will provide the designed life?

Answer by the American Samoan Government: Over recent years, considerable rehabilitation of the existing diesel generators has been accomplished, loading to a present capacity of 26,000 kilowatts (peak load demand is 14,000 kw). With the installation of two-3,000 kilowatt combustion turbines and one-2000 kilowatt heat recovery turbine (funded in 1985), an additional eight thousand kilowatts will be added to the system. However, Army generators temporarily in use will soon be removed, leading to a capacity after October 1985, conservatively estimated at 28,000 kw. We project this to be adequate capacity for approximately four years, when a combination of the end of the useful lives of some of the diesel generators, coupled with increased demand will put us again into a position of having to run at near maximum capacity during peak load demand periods.

The Director of the American Samoa Power Authority estimates that some 40% of our increased capacity will be used up within the next two years because of growth in our local economy. The new equipment, being turbines, will require a lesser degree of maintenance throughout its useful life. The government has contracted with an off-island qualified turbine maintenance technician, who will be here for a period of two years supervising the facilities and the maintenance. Day-to-day maintenance is minimal. When the need arises, it is a simple matter to fly in an appropriate technician for more complex problems.

Northern Mariana Islands Hospital

Question: 26 million, 400 thousand dollars was provided over three years to fund a replacement hospital on Saipan. Construction is underway and should be completed at the end of fiscal year 1986.

Can you give us a status of this project?

Answer: Construction of the Commonwealth Health Center is progressing well, although we are almost a year away from final completion. We recently made an important decision to terminate Turner International as the construction manager for the hospital. We were not entirely satisfied with their work and believed that we had the capability to manage the remainder of the project with our own staff, augmented by architectural and engineering services provided by professionals that we have put on retainer.

Question: Last year this Committee acknowledged that contracting efforts on behalf of the Northern Mariana's government resulted in the savings of 3 million dollars on the hospital. We also indicated that if necessary and unanticipated expenses were necessary to complete the facility, the Committee would consider them in future funding measures.

Can you describe any additional expenses that may be incurred?

Answer: Accurate costing of project construction is difficult because of the recurring need to execute change orders due to field conditions and necessary design changes during construction. Such contract modifications are typical in a project of this magnitude. Based on current cost estimates, we believe that total project costs will exceed the appropriations of $26,370,000. Cost items that have not yet been funded are the telephone system, laboratory equipment, and project administration, inclusive of engineering consultation by the design engineers.

Question: What steps have been taken to solve the staffing problem in the hospital?

Answer: We are working closely with the Public Health Service and the Department of the Interior to adequately plan for the staffing needs of the new facility. We have identified, with their help, a need for 71 new employees, in addition to those presently working on the Dr. Torres Hospital staff. We have received technical assistance financial support for putting together this plan and to fund a limited number of key transition personnel. However, most of the funding for hospital staff will be paid from interest earned on the public land trust. This source of financing will provide us an additional $2.5 million per year.

Northern Mariana Islands Wages and Salaries

Question: What is the difference between government employees and private sector salaries?

How do you expect private sector employment to be more attractive than government employment?

Answer: Presently, government salaries are significantly higher than those paid to workers in the private sector. This difference, however, narrows significantly when low-waged alien workers are not included in the comparison. We are embarking on a major program to increase economic and business development and to reduce the size and cost of government. We believe the next seven years will see dramatic growth in the private sector, a decreasing reliance on alien labor, and the economy will become much less dependent on the public sector. These improvements should be reflected in future salary comparisons.

Northern Mariana Islands Legislature

Question: I understand in fiscal year 1984, near 4 million, 200 thousand dollars was spent by the legislative branch of the government. Considering the infrastructure needs and the population of only 17 thousand people, it is clear that some of these expenditures could be spent better elsewhere. What is being done to bring legislative salaries and the legislative budget under control?

Answer: The legislature is sensitive to the issues raised in the question. Legislation was enacted in June 1985 that will control salaries and limit the total legislative budget to a maximum of $2.8 million annually. Even more stringent limitations than those are also being considered.

College of Micronesia

Question: Can you explain why it will cost 3 million, 200 thousand dollars to construct the College of Micronesia nursing school in Majuro when the entire hospital only cost 7 million dollars?

Has adding a wing to the new hospital been considered?

Answer by the Republic of the Marshall Islands: In comparing the cost of constructing the hospital with the cost of constructing the proposed nursing school, it is important to note first, that it appears that the hospital project may have been underbid by approximately $1.0 million. The primary supplier of building material for the hospital has defaulted on the supply contract, noting that its bid will not cover its costs. The issue is currently subject to litigation. The final cost of the hospital could be near to $8.0 million.

There are several reasons for the relatively modest construction costs for the new hospital including the use of an in-expensive building material and construction by force account. This method has eliminated some administrative and inspection costs. Unfortunately, it has also had the effect of increasing construction time by 18 months.

The hospital is approximately 55,000 square feet while the nursing school has 29,600 square feet. If square footage costs for the two facilities were equal, the cost of the nursing school would be $3.87 million rather than $3.2 million as requested. There are, however, a number of factors which make it hard to compare the two facilities.

The cost per square foot for the hospital is higher than for the nursing school because of the equipment which is included in the hospital. However, the building cost for the hospital is significantly lower than for the nursing school because of the cheaper building material used for the hospital.

The construction material being used for the hospital is an aluminum sandwich, pre-fabricated material which, although cheaper initially than other materials, will have a limited life-span and higher operation and maintenance costs than buildings made of other materials. The life-span of the hospital is estimated to be 15-20 years, which is acceptable given the fact that technology changes can be expected to make any hospital structure obsolete within this period of time. The expected life-span of the nursing school will be 35-40 years because of construction material which will be used.

The nursing school facility will consist of dormitories to accommodate 48 students, duplex units for 10 faculty, kitchen, and learning facilities. The nursing school will be constructed using concrete masonry material at a variable cost ranging from $60 per square foot for the housing units to $125 per square foot for the kitchen facilities. Although the average per square foot costs for the nursing school exceed those of the hospital, this material was selected because it is more durable, has lower operating costs and maintenance costs, and is more suitable for the limited land area which is available for the school.

Because of the concrete and masonry material to be used for the nursing school, the facility will require far less maintenance than will the hospital. The construction material is suitable for two-story facilities, which is necessary because of the limited land available for the school. In this regard, it should be noted that construction material used for the hospital is not suitable for two-story structures given its structural properties. A one-story hospital facility is appropriate because it eliminates the need for elevators, which are relatively complex and difficult to maintain. Of course, elevators will not be required for the nursing school since all the occupants will be ambulatory.

We believe that the cost estimates for the nursing school are reasonable given the type of construction and facilities comtemplated. In this regard, it should be noted that the inclusion of housing for students and faculty is essential given the extremely limited supply of housing in Majuro. On the other hand, $230,000 is included in the budget estimates for a cafeteria and kitchen. If necessary, this item could be cut or reduced in scope to a cook-house facility. Alternatively, the nursing school could utilize the kitchen and cafeteria facilities in the new hospital. A five percent contingency of $129,250 could also be cut. Cutting the kitchen/cafeteria and contingency would reduce the cost of the project by $359,250.

Question: Has adding a wing to the new hospital been considered?

Answer by the Republic of the Marshall Islands: Consideration was given to adding on to the hospital facility for use by the nursing school. This concept was rejected because of the limited land available for the hospital/nursing school complex. The hospital will be 55,000 square feet and the nursing school will be 29,600 square feet, or 53 percent of the area of the hospital. Adding on to the hospital would require construction of a one-story facility using the same material as the hospital. This would increase the land needs for the complex by over 50 percent. The nursing school will be a two story structure located behind the hospital, between the hospital and the ocean side of the island. Given the limited area at this location, it was necessary to design a two-story facility. This made it infeasible to design the nursing school as a wing of the new hospital. In addition, it would not be appropriate to build student and faculty housing which is connected to the hospital.

Marshall Islands Capitol

Question: Last year, Congress indicated a willingness to consider funding for a capitol for the Marshalls after plans are reviewed.

What is the status of these plans?

Answer by the Republic of the Marshall Islands: Plans for the capitol were completed by the Trust Territory government in 1984. The Trust Territory estimated the construction costs to be $7.0 million. The capitol will consist of a five-story concrete structure which will house the executive branch of the Government and an adjacent auditorium type structure to house the legislative branch. We will provide the Committee with the floor plan, elevation plan, and site plan for the new capitol in th near future.

Undersea Mineral Resources

Question: In 1984, the United States Geological S vey conducted a survey of the Republic's undersea mineral r ources.

I understand that the analysis may not be complete et, but have you received any indication of what deposits may b within the Exclusive Economic Zone of the Marshall Islands?

What are your future plans with respect to these deposi ?

Answer by the Republic of the Marshall Islands: T United States Geologoical Survey has completed a preliminary r onnaissance and geochemical analysis of ferromanganese crusts of th Ratak chain of islands within the Republic of the Marshall Islands. Their preliminary report indicates that there are sizable cru deposits of manganese, cobalt, nickel, and platinum within the a ea surveyed. It should be noted that the survey sample was small and included only a limited area within the Marshall Islands.

We have asked the Department of the Interior to provide the Committee with a copy of the report as soon as it is completed.

The Republic's National Development Plan lists the following objectives for the mineral resource sector during the next five years:

- to determine the extent of mineral resources available;
- to determine the feasibility of mining them; and,
- to ensure efficient exploitation of any mineral resources that prove to be commercially valuable during the Plan period.

The Government of the Republic of the Marshall Islands has established a 200 mile Exclusive Zone for the Marshall Islands, resulting in an economic zone encompassing approximately 750,000 square miles. The Compact of Free Association, in providing for the termination of the Trusteeship, sets a framework for the establishment of self-sufficiency for the Marshallese people.

No other single economic activity has as great a potential for achievement of self-sufficiency as does the assessment of mineral resources within the Marshall Islands Economic Exclusive Zone and the development of plans for exploitation of these resources. In this regard, the Government looks forward to working with the United States to ensure that effective off-shore leasing and mining laws and regulations are in place before large-scale exploitation becomes feasible. A technical assistance request will be forwarded to the Department of the Interior later this year to request this assistance.

Majuro Hospital

Question: The new Majuro hospital is scheduled to be completed in the summer of 1985. With the help of the Department of the Interior, the Republic has entered into a contract with the Sisters of Mercy Health Services Corporation, to provide technical assistance personnel in the areas of hospital administration, nursing, and plant maintenance. The Department of Interior asked the Sisters of Mercy to assess the transition needs of the new facility.

Can you describe what was recommended in their report?

Answer by the Republic of the Marshall Islands: The Sisters of Mercy transition report, a copy of which has been provided to the Committee, concluded that there is a critical need to upgrade the skills of hospital personnel and increase staffing levels in order to open, operate, and maintain the new hospital. Their report recommended the following:

- the formation of a transition team to plan the opening and move to the new hospital;
- development of a plan for the gradual opening of the hospital and gradual use of new equipment based upon a program of staff education;
- implementation of a new staffing plan with the addition of 55 personnel, including the retention of an additional six expatriate personnel on a short-term basis to train local health personnel;

- development of training programs for practical nurses, especially in intensive care unit procedures and for laboratory personnel in the area of equipment operation;

- development of policies and procedure materials for administration, medical care, supply, food service, recordkeeping, visitor control, medication control, patient transportation, and money collection.

It should be noted that the Sisters of Mercy report was prepared before the Government had decided to let a contract for assistance in making the transition to the new hospital.

It should also be noted that the recommendation for 55 additional staff understates optimal staffing requirements. The transition report observes: "The proposed staffing requirements have been kept to a bare minimum. Greater projections could easily be made, but the reality of available people (who can be trained by the hospital opening date) dictates moderation. The ICU and NBN cannot be opened and staffed with these projections", (page 27). ICU refers to Intensive Care Unit and NBN refers to Neo-natal-Newborn Unit.

The Government has submitted a supplemental request in the amount of $0.9 million to implement the recommendations in the transition report. The funding will be used to contract for six additional technical assistance personnel in the following areas:

- A registered nurse to conduct a full-time Continuing Education Program for Practical Nurses:

- A Director of Purchasing and Supply to establish a medical procurement and supply system;

- A Bio-Medical Engineer to provide training on the operation of new equipment;

- A registered dietician;

- A pharmacist; and,

- An inhalation therapist.

Funding will also be used to purchase additional equipment, especially in the area of maintenance, which the Sisters of Mercy have identified as necessary subsequent to the completion of the transition report. Finally, the supplemental funding w l be used for the first year salary cost of local personnel.

Approval of the supplemental request will enable t Goverment to gradually open and operate the entire facility and t increase the level and types of medical care which can be offere in the Marshall Islands.

Infrastructure Construction

Question: How much of the first five years of com ict funding will be directed to infrastructure construction in Jalu :?

How much to Kwajalein?

Answer by the Republic of the Marshall Islands: T e attached listing shows that the National Development Plan has pr grammed $2.8 million for infrastructure development projects at Jalu t Atoll for the period fiscal year 1986 - 1990. In addition, the P an programs over $28 million for infrastructure projects which are f a national nature in the sense that they benefit the entire population of the Marshall Islands, including those in Jaluit Atoll.

The National Development Plan programs $116 million for infrastructure development on Kwajalein Atoll for the period fiscal year 1986-1990. The projects will be managed by the Kwajalein Atoll Development Corporation. It should be noted that, of the total funds programmed, only $29.5 million has been identified with certainty. There is a shortfall of $86.5 million for Kwajalein projects. The Plan states that implementation of all the projects for Kwajalein Atoll is conditional upon the Kwajalein Atoll Development Corporation securing additional funds.

Palau Loan Default

Question: A short time ago, Palau borrowed 32 million, 400 thousand dollars from British banks for the construction of a power project. This project was designed to save millions of dollars in subsidies and fuel costs while also providing residential and commercial power to the Republic. Loan repayments were to come from general revenue, project revenue, and funds received upon Palau's ratification of the Compact of Free Association. Since the project is not yet complete, minimal revenues have been generated from the project. More importantly, only 67 percent of the required 75 percent of the Palauans voted for the Compact and thus, Palau has not received any funds from the United States for the Compact.

On March 8, 1985 and April 9, 1985, the Republic of Palau defaulted on over 30 million dollars of private loans.

Can you explain the situation surrounding the default?

Answer by the Republic of Palau: Faced with an antiquated and costly power system which often generates only two hours of power a day, Palau determined that it must have an efficient system which would deliver power to its residents at a reasonable cost. Palau was unable to convince the Department of the Interior of the necessity of this project. Instead, Interior offered to tinker with the present system, based on inefficient World War II era generators which were hopelessly antiquated and required constant maintenance. Palau, therefore, sought and received foreign loan commitments to build a 16 megawatt powerplant. Congress had included, for fiscal year 1984, an amount of $4.5 million for Palau powerplant purposes but when Palau went ahead on the new powerplant this amount was reprogrammed, against Palau's wishes, leaving it unable to meet its power obligations. Thus, in March and April of this year Palau was without funds to meet the initial interest installment on the loans and thus was declared in default.

Question: What are the consequences to Palau if the default continues?

Answer by the Republic of Palau: Under the very complex loan arrangements, a default in interest payments places the entire loan in default and requires the guarantors to honor their guarantees by paying off the original lenders. This has now been done and the guarantors, consisting of Morgan Guaranty & Trust (U.S.), Morgan Grenfell Ltd. Co. (U.K.), Bank of Scotland, Royal Bank of Canada and the Bank of Tokyo have now assumed the loan. Since Palau is in default they can foreclose and file suit against Palau and attempt to seize its assets. Because this is not a project loan and because Palau waived sovereign immunity in order to receive the loan, the guarantors could attempt to attach the assets of Palau wherever located. Palau's ability to transact business internationally could be impaired and successful attachment of assets could affect governmental functions.

Question: How does the Republic of Palau propose to get out of this situation?

Answer by the Republic of Palau: After hearings before this Subcommittee, officials of the Republic of Palau held three days of meetings with the banks' representatives. The agent for the guarantors, who are now the parties in interest because of the loan default, suggested that they would recommend a restructuring of the loan to the other guarantors if it is deemed to be commercially viable. The banks have thus expressed a willingness to carry on negotiations on an expedited basis which could result in a restructuring and avoid the possibility of a foreclosure with its negative consequences to Palau. However, even a restructured debt would require, at a minimum, the servicing of the debt, i.e. the payment of interest. The ability of Palau to service the debt, however, is dependent, in large measure, on the ability of the powerplant to be fully operational; if this is achieved it can generate substantial cash to service the debt. Accordingly, it is critical for Palau to get the powerplant up and running, and this, in turn, depends on receipt of funds for the transmission lines. This is why an appropriation of $2.0 million, or a reprogramming in that amount, is so critical to Palau. Thus, to get out of this situation Palau would request a $2.0 million appropriation or regrogramming for transmission lines which would be coupled with a restructuring of the debt.

Question: Have you requested any reprogramming from the Department of the Interior to help out with this situation?

Answer by the Republic of Palau: Palau asked the Department of the Interior to reprogram $1.8 million presently allocated to water projects to the transmission lines. We have worked hard on our water system and, with the help of Congress, have been able to bring it up to reliable standards and high purity levels. We are thus in a position to shift those funds to this more critical need. However, the Department has refused to request Congress to reprogram these amounts.

Question: Have the problems associated with the default had any impact on the passage of the Compact?

Answer by the Republic of Palau: We do not believe that, to date, the problems associated with the default have had any impact on steps being taken to effectuate the Compact. However, the possibility remains that, if the default is not cured, this issue could grow to a magnitude which could impact on Compact negotiations and drain Palauan resources from the priority Compact issue.

ENEWETAK

It is currently anticipated that the Compact of Free Association may take effect on October 1, 1985. Whether the Compact becomes effective then, or at some other date, there are a number of questions that arise about responsibility for the Enewetak Resettlement Program (also referred to as the Enewetak Support Program) after termination of the Trusteeship. Support Program was instituted in connection with the 1980 resettlement of Enewetak to provide food and other essential services which the people were not able to provide for themselves.

The Enewetak Atoll Resettlement Program Status Report prepared by the High Commissioner of the Trust Territory of the Pacific Islands for Enewetak Atoll (dated May 1, 1985) describes the components of the resettlement program as follows:

1. Agriculture Program
2. Food Program
3. Wetak II
4. Trust Fund Administration
5. Community Support and Development

And, although it is not mentioned in the High Commissioner's Report, the Burton Health Care Program, which is about to be implemented, is an aspect of Enewetak's support and, in the Committee's view, should now be considered part of the resettlement program.

These questions seek information about the plans to transfer administration of these programs from the Interior Department to either the Republic of the Marshall Islands or the Council of Enewetak, or some combination of the two.

Question: Is any additional legislation required (or any change in the resolution approving the Compact) to permit you to continue the Enewetak support program after the Compact becomes effective?

Answer: The Compact of Free Association provides for the continuation of these programs, if the Republic of the Marshall Islands so desires, utilizing compact funding. The Department of the Interior does not have authorization to continue the programs post-compact.

Question: Would it, if it had the necessary legislative authority?

Answer: The Section 177 Agreement of the Compact provided for a $5 million Agricultural Maintenance and Food Supplement Trust Fund, the income of which shall be used to continue the food supplement program until it is no longer necessary as determined by the Enewetak Distribution Authority.

Question: If so, which one?

Answer: Because the program would be administered by the Enewetak Distribution Authority, that agency would determine which components would continue.

Question: How will the Department fund the programs it plans to continue during the period after the Compact becomes effective?

Answer: The Department does not plan to continue the programs. The Compact provides for funding through the Enewetak stribution Authority.

Question: Please indicate the official within the De tment who will be ultimately responsible for the administration each program that will be continued after the Compact beco s effective, and the person who will have the direct day-to-day op ating responsibility for each program?

Answer: The organization for the post-trust administ tion of the programs and grants applicable to the freely associat states has not yet been established. The Republic of the Marsha Islands would be responsible for the administration of those ograms chosen for continuation under the compact.

Question: Which of the programs that make up the Ene etak Resettlement Program does the Department plan to disc ntinue after the Compact becomes effective?

Answer: All except the Four Atoll Health Care program for which funding is already obligated. Obligated funds will be utilized until expended.

Question: For the program that you plan to discontinue, when do you plan to end Department administration of these programs? On the effective date of the Compact, or later? If later, on what date?

Answer: Effective date of the Compact.

Question: To what extent does your answer to the foregoing question depend on whether the Compact becomes effective on the first day of the fiscal year, or at some date within the fiscal year? If the Compact does not become effective until after the fiscal year starts, will the Interior Department seek full or partial year funding for the Enewetak support programs for the remainder of the fiscal year?

Answer: The administrative decision on implementation of the Compact has not yet been made. Such a decision will be made after passage of the Compact and following appropriate discussion with the authorizing committees of the Congress.

Question: For each program the Department intends to discontinue, what plans have you made to transfer the administration of the program to the other agencies? Who is in charge of making these plans?

Answer: The responsibility will be transferred to the Republic of the Marchall Islands.

Question: Please furnish the Committee a copy of the plans that now exist with respect to the transfer of each program?

Answer: No such plans now exist.

Question: For each program that will be transferred to the Republic of the Marshall Islands or the Council of Enewetak after the effective date of the Compact, please identify the responsible official in the receiving agency who will administer the program?

Answer: Unknown.

Question: Are discussions currently going on among th epartment, the Republic of the Marshall Islands and the Council o newetak with respect to plans to continue these programs after e Compact becomes effective?

Answer: Only continuation of the Four Atoll Health Ca program.

Question: Please furnish the names of the offices fro each government involved in these discussions?

Answer: Minister of Health, the Republic of the Marsh l Islands and John Short Associates.

Question: Assume that the Compact becomes effective o October 1. When will the first payment be made to Enewetak under e Section 177 Agreement?

Answer: The transfer of funds would be subject to establishment by the Enewetak Council of the organization for administering the funds. We assume that such an organization would be established in the first quarter.

Queston: Between the time the Compact becomes effective and the date of the first quarterly payment under the Section 177 Agreement, what funds will be available to Enewetak to pay for the Enewetal Supprt programs or their replacement?

Answer: The Enewetak legal counsel is understood to be exploring the possibility of obtaining long term financing utilizing the Compact 177 funds as a guarantee.

Question: If the U.S. does not furnish these funds who will?

Answer: The United States will provide funding under the Compact.

Question: Has the Republic of the Marshall Islands agreed to do so? If so, what is the nature and extent of the Republic of the Marshall Island's undertaking?

Answer: No. Funding is authorized under the terms of the Compact.

Question: What will happen to the Department of Energy laboratory facility on Enewetak after the Compact becomes effective?

Answer: The Department of Energy advises the Office of Territorial and International Affairs that the Republic of the Marshall Islands is committed to the use of compact 177 funds to continue this effort.

Question: Are you planning to turn it over as it is to the people of Enewetak? If so, do you plan to provide any funds to assist them maintain it?

Answer: If facility is no longer required by Department of Energy, the Department of Energy intends to place it in caretaker status to preserve the facility until an ultimate decision is made. The Department of Energy intends to fully protect this asset.

Question: What will happen to the facilities now maintained by Holmes & Narver, the Enewetak Resettlement Program contractor, when the Compact becomes effective?

Answer: A decision regarding these facilities will be made by Enewetak Distribution Authority. Funding is provided under the $5 million trust fund for continuation of food maintenance programs.

Question: Will the nursery establishment by Holmes & Narver for use in the agricultural program be transferred to the people of Eneweta? Will the Interior Department provides funds for the continuation of the nursery for some interim period after the Compact becomes effective? If so, for how long?

Answer: It could be transferred to the Republic of the Marshall Islands or Enewetak. The Department of the Interior would not provide additional funding, because funding is provided under the section 177 agreement of Compact.

Question: The Section 177 Agreement provides that, once the Compact becomes effective, the Republic of the Marshall Islands will be responsible for policing the limits on the use of the islands in northern Enewetak Atoll. Are discussions currently going on between the Trust Territory of the Pacific Islands, Department of Energy, and the Republic of the Marshall Islands with respect to the obligation? What officials of our government are involved in those discussions?

Answer: No such discussions are taking place and are not necessary. The Republic of the Marshall Islands is obligated to administer these provisions.

Question: What officials of RepMar are involved? Is anyone from Enewetak involved in these discussions?

Answer: No discussions are planned.

Enjebi Resettlement

On December 2, 1980 and again on April 26, 1983, the Secretary of the Interior recommended that a trust fund be established to assure that money would be available to implement the Enjebi Resettlement Master Plan when it was sage for the people to return to Enjebi. Passing the question of when it will be safe for them to return, will you please provide the following information in connection with the Department's position on Enjebi resettlement.

Question: In December 1980, and again in 1983, the Secretary of Interior recommended that a trust fund be established for the resettlement of Enjebi. Does the Department continue to believe that the United States should provide a trust fund for this purpose?

Answer: The Department has not revised its position, but fully supports the Administration position as indicated by the submission of the President's budget request.

Question: If so, do you favor adding the amount necessary for that purpose to the sum provided in the Compact of Free Association, or would you advocate that it be included in a settlement appropriation before the Compact becomes effective?

Answer: The Department supports the Administration position as indicated by the submission of the President's budget.

Question: In 1983, the Department estimated that $8.5 million should be provided for this purpose. Given the intervening inflation, how much would be required today to accomplish the same results?

Answer: The current estimate is $10.0 million.

Question: If the Department no longer supports the establishment of this fund, what is its basis for the change of position?

Answer: The Department has not revised its position.

Question: Who made the decision?

Answer: N/A.

Question: Is the decision supported by a Secretaryial decision document as was the initial determination that the trust fund be established? If so, please furnish a copy of the Secretarial decision document and any studies and reports that were made or used by the Interior Department to support the change?

Answer: No additional actions have been taken by the Department to amend either the 1980 or 1983 decisions.

Question: Inasmuch as the Administration has agreed that funds for the cleanup and resettlement of Bikini should not be taken from the Section 177 payment to Bikini, should it not also agree that the resettlement of Enjebi should be in addition to the Enewetak payment under Section 177?

Answer: The Administration has not taken a position on this issue.

SUBCOMMITTEE RECESS

Senator JOHNSTON. The subcommittee will recess until 2 p.m., Tuesday, May 7, when we will review the fiscal year 1986 budget for the Indian Health Service.

[Whereupon at 4:33 p.m., Thursday, May 2, the subcommittee was recessed, to reconvene at 2 p.m, Tuesday, May 7.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, MAY 7, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2 p.m., in room SD–138, Dirksen Senate Office Building, Hon. James A. McClure (chairman) presiding.

Present: Senators McClure and Burdick.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

HEALTH RESOURCES AND SERVICES ADMINISTRATION

INDIAN HEALTH SERVICE

STATEMENT OF ROBERT GRAHAM, ADMINISTRATOR

ACCOMPANIED BY:
- **EVERETT R. RHOADES, DIRECTOR, INDIAN HEALTH SERVICE**
- **BILLY F. PEARSON, ASSOCIATE DIRECTOR FOR ADMINISTRATION AND MANAGEMENT**
- **WILLIAM R. BELDON, BRANCH CHIEF, OFFICE OF BUDGET, DEPARTMENT OF HEALTH AND HUMAN SERVICES**

PREPARED STATEMENT

Senator MCCLURE. Good afternoon.

This is the time scheduled to review the fiscal year 1986 budget estimates for the Indian Health Service. The fiscal year 1986 budget request for IHS totals $758,543,000, a decrease of $96,818,000 below fiscal year 1985 appropriations to date.

Dr. Graham and Dr. Rhoades, it is a pleasure to welcome both of you before the subcommittee again, although I understand recent news reports would indicate this may be your last appearance here.

Dr. GRAHAM. I think you may be assured of that.

Senator MCCLURE. Your full opening statement will be included at this point in the record. If you would introduce those with you at the witness table, we will proceed directly to the questions.

[The statement follows:]

STATEMENT OF DR. ROBERT GRAHAM

I am Dr. Robert Graham, Administrator of the Health Resources and Services Administration. With me are Dr. Everett Rhoades, Director of the Indian Health Service, and Mr. Bill Pearson, Associate Director for Administration and Management, Indian Health Service. We are pleased to be here today to discuss with you the Fiscal Year 1986 budget request for Indian Health programs.

The Indian Health Service (IHS) is the Federal bureau charged with administering the principal health program for American Indians and Alaska Natives. The goal of the IHS is to raise the health status of Indian and Alaska Native people to the highest possible level. Its mission is threefold: 1) to provide and/or assure the availability of high quality comprehensive, accessible health services; 2) to provide increasing opportunities for Indians to manage and operate their own health programs; and 3) to serve as a health advocate for Indian people. In FY 1986, the IHS will continue its mission by providing comprehensive health services to approximately 987,000 Indian and Alaska Native people.

Since the transfer of Indian health programs from the Department of the Interior to the Public Health Service in 1955, this comprehensive health delivery system has developed into three modes of delivery. Direct health services are provided through the operation of 47 hospitals, 80 health centers, and more than 500 smaller health stations and satellite clinics.

The tribal health delivery system, which is administered by tribes and tribal organizations through contracts with the IHS, operates 4 hospitals and 262 health clinics. The purchase of medical care from non-IHS and non-tribal providers, or contract health services, is the third method of service delivery. Contract health services represent services either not available in IHS's direct or tribal facilities or required in locations where no IHS or tribal facility exists.

I would like to take this opportunity to recount to you some of the program achievements in FY 1984 and 1985. These accomplishments fall into the three broad areas of health services, management improvements, and self-determination activities.

In the area of health services:

1. In FY 1984, the IHS completed a review of the Alaska Hepatitis-B Control Program which has resulted in the expansion of the program to the entire Alaska Native population. Approximately 28,000 Alaska Natives have now been screened, including all of the high-risk villages. By the end of FY 1985, it is anticipated that a total of 35,000 Alaska Natives will be immunized.

2. In FY 1984, 90% of all native American children 27 months and under were appropriately immunized for their age. This percentage has been maintained for the last three years and exceeds the rate for the general population.

3. The infant mortality rate for American Indians and Alaska Natives residing in the Reservation States has decreased 52

percent since the 1969-1971 period, declining from 24.7 (rate per 1,000 live births) to 11.9 in 1980-1982. The IHS rate is currently equal to the U.S. All Races rate for 1981. The current neonatal mortality rate (fewer than 28 days) of 5.5 for Indians is less than the U.S. All Races rate of 8.0; while the Indian postneonatal rate (28 days - 11 months) is greater; i.e., 6.5 versus 3.9.

4. Substantial progress has been made toward the equitable delivery of health services. The Equity Health Care Fund, established by the Congress, has from FY 1981 to FY 1984 provided $32.4 million of new funds to tribes with the greatest resource deficiencies. The continuing infusion of major new increments of money has enabled the Equity Health Care Fund to achieve its objective to insure that no tribe had an overall deficiency greater than 60 percent of optimum health care services. In FY 1985, the IHS has set aside $5 million to continue the progress towards equity. In addition, the IHS continues to develop an improved resource allocation strategy.

5. Currently, 40 of the 47 hospitals operated by the IHS and the 4 hospitals operated by the tribes are accredited by the Joint Commission on Accreditation of Hospitals (JCAH), an increase of 74 percent in the past decade. In addition, 28 free-standing health centers are accredited by the JCAH. The remaining 7 hospitals are certified by the Health Care Financing Administration as eligible to receive Medicare reimbursement.

In the area of management improvements, the IHS has achieved the following:

1. Major progress has been made on the Phase I implementation of the patient registration system; some Areas have registered 80 percent of users. Phase II, the automation of patient registration on microcomputers at the facility level, is about to begin implementation.

2. During FY 1984, the IHS completely reorganized its Headquarters operation, resulting in a more responsive organization and significant improvements in the overall management of the IHS.

3. During FY 1984, IHS improved the efficiency and overall effectiveness of the field organization through the relocation of Area/Program Office Directors to different Areas, and the appointment of new Area and Program Office Directors.

4. During FY 1984, the number of Indians in senior management positions within IHS was increased by 16%. This is in keeping with the objective of the IHS to continue to increase the number of Indians at all levels of the IHS, particularly in senior management positions.

The IHS has made significant strides in Indian self-determination activities:

1. In FY 1984 and continuing in FY 1985, the IHS will work in collaboration with the tribes in revising and improving the tribal specific health planning process. This process will provide for the evaluation of the delivery systems and provide data helpful for future budget decisions.

2. In FY 1985 and continuing in FY 1986, the IHS will continue to involve the tribes in resource planning and the development of an allocation methodology to reflect tribal concerns. In FY 1985, plans will be developed for orientation and training of the tribes on the actual Resource Requirement Methodology application and its relationship to an allocation methodology.

3. The IHS provides increased training and technical assistance to the tribes and tribal organizations who have elected to contract programs under the Indian Self-Determination Act (P.L. 93-638).

Some of the specific actions taken by the IHS which have been started in FY 1985 and will continue in FY 1986 are:

1. A major initiative involving the introduction of a services-based accounting system into the Resource Patient Management System by the end of FY 1986. Up to $2 million will be specifically earmarked in FY 1986 to complete installation of this sytem in 12 IHS hospitals.

2. In FY 1986 $5 million will be used to expand the level of IHS resources devoted to contracts with Indian tribes. These funds will be used for tribal administrative costs incurred in operating P.L. 93-638 contracts.

3. The IHS, in FY 1985, developed a methodology to be used in establishing similarities and dissimilarities between the U.S. population and the IHS service population in terms of availability, use, cost, and outcomes of services. The results are anticipated to address the issue of "parity" of health services for Indian people with the U.S. population.

For Fiscal Year 1986, the budget request for the IHS includes $820 million in total obligations and $759 million in budget authority.

The 1986 program anticipates $62 million will be available in reimbursements from Medicare, Medicaid, and other Federal sources to complement direct Federal appropriations.

Within the proposed $820 million budget, $18 million is available to meet essential cost increases to support health care delivery. This increase will be offset by savings in three areas: (1) reductions in non-services delivery expenses, including the government-wide five percent Federal salary reduction and the government-wide ten percent reduction in administrative costs (-$18 million);
(2) non-recurring construction costs (-$59 million); and
(3) elimination of certain non-direct clincial care activities;

e.g., community health representatives, Urban health projects, and Tribal management (-$37 million).

Facilities construction funds are requested for major modernization and repair projects ($2 million) in existing Indian Health facilities. During FY 1986, planning and/or construction work for all purposes will proceed on facilities at 21 sites with an estimated $69.7 million in appropriated funds available from prior years.

Mr. Chairman and members of the Committee, I will be pleased to answer any questions you may have on the specifics of this budget request.

INTRODUCTION OF ASSOCIATES

Dr. GRAHAM. Thank you very much.

The gentleman at my immediate right is Mr. William Beldon, who is representing the Office of the Secretary, Management and Budget, in the Department of Health and Human Services; and to Dr. Rhoades immediate left is Mr. William Pearson, who is the Associate Director of the IHS for Operations and Management.

You do have the full text of my statement before you for submission to the record. I would summarize it by simply saying that we propose in 1986 to continue with the highest priority activities in the Indian Health Service, which focus very much on the provision of clinical services to Indian individuals on or near reservations. We feel that it is this set of services that has contributed in a major way over the last 20 or 30 years to a marked improvement of the morbidity and mortality statistics within the Indian communities.

With that albeit very brief summary we would be happy to respond to any questions or issues that you would like to address.

ALASKAN INFANT DEATH RATE

Senator McCLURE. Thank you very much, Dr. Graham.

Before getting into the budget questions I would like to commend the Indian Health Service on the strides made in reducing the infant death rate. The most recent statistics indicate that the infant death rate among American Indians and Alaskan Natives has dropped to the level of that of the whole U.S. population, approximately one-half the rate of just 10 years ago. In fact, the infant death rate in the contiguous States is actually lower than that of the entire population, but the Alaska Native rate is still substantially higher.

Will the Indian Health Service be taking any special steps in an effort to bring the infant death rate among Alaska Natives down to a level comparable to that of the lower 48?

Dr. GRAHAM. Because of the detailed work that the IHS has done on that in the past several years I would like Dr. Rhoades to describe in some specificity what our plans are.

Dr. RHOADES. There are two programs underway at this moment that I have great hopes will make further inroads in infant mortality specifically in Alaska. One is the Hepatitis-B Control Program, which is well underway, which strikes Alaskan Native youth much more than older people.

The second activity is a trial of vaccine for an organism called hemophilus-B, which is associated with pneumonia or meningitis in infants and children.

We have every reason to believe that those two programs are going to have some effect on infant mortality, specifically in Alaska. That is where they are going on.

In addition, we give increased attention to infections that occur around the time of delivery in the mother, which we believe if successful will decrease the rate of prematurity and that in turn should have a beneficial effect on infant mortality.

The overwhelming distances and dispersal in Alaska and the fact that a number of infant deaths are associated with congenital anomalies which are fatal in and of themselves, and that peculiar syndrome that is called sudden infant death syndrome, which is not completely understood in this country, until knowledge of those two conditions is increased generally it is unlikely that we or anyone else is going to be successful in decreasing the mortality from those. In the long term it is hard for me to see how the infant mortality in Alaska will rapidly reach that in the lower 48 States.

LIFE EXPECTANCY

Senator MCCLURE. Life expectancy among the Indians remains below the national average. How have those figures changed in the last 10 years?

Dr. RHOADES. There are few indices of health that are more gratifying than the changes that have taken place in life expectancy of Indians. In the new chart series that we publish every year, which I would be glad to make a copy of available to the committee, we actually chart the life expectancy at birth for Indians compared to all races in the United States, and the rate of increase in longevity for the last two decades of Indians has been more rapid than it has been for the rest of the population, although the difference in longevity for Indians compared to non-Indians is still about 3 years, somewhat greater for males than for females.

If you want to take a look at a graph on page 20—perhaps it would be simpler to take a look at table 4.1 in the middle of that book, which shows decennial census years from 1940 to 1980. If you just read across for 1980, you see the life expectancy for American Indians and Alaskan Natives at 71.1 years compared with 74.4 years for both sexes for the white population.

Senator MCCLURE. I notice that there was a big change from 1940 to 1950 and then it stayed relatively the same from 1950 to 1970 and then another big change between 1970 and 1980; is that correct?

Dr. RHOADES. That is correct.

Senator MCCLURE. How do you account for that? Is that a peculiar pattern?

Dr. RHOADES. I would not say it is a peculiar pattern. One might have expected perhaps a more even increment each decade. There is no question but that the greatest contributor to longevity is decreased infant mortality because that has a greater impact on life expectancy than any other thing, and there is no question in my mind that the improvements in life expectancy are a result of decreased infant mortality.

Dr. Graham just pointed out that 1940 could be taken as the year to herald the introduction of penicillin and then very rapidly the other antibiotics. That clearly may have had an effect also in that particular decade.

Senator MCCLURE. We also saw gains of life expectancy among non-Indians as well, the general population, but the change among Indian population between 1940 to 1950 is much more dramatic than it was among the rest of the population.

Dr. GRAHAM. Mr. Chairman, these may well be populations where the risk of infectious disease may have been disproportionately high as compared to the rest of the population, so the introduction of antibiotics and antitubercular agents would have an even greater impact within these communities.

DISTRIBUTION OF FISCAL YEAR 1985 APPROPRIATION

Senator MCCLURE. The tables on pages 33 and 34 of the justification show a distribution of $763,153,000 as of January 1985. This is approximately $30 million less than the fiscal year 1985 appropriation level. Have the remainder of the appropriated funds been distributed since this justification was prepared?

Dr. RHOADES. No, sir; the remainder have not been distributed yet, but we anticipate that they will be distributed by the end of the fiscal year. Some of the reasons why they haven't been distributed include, for example, the scholarships, which will not be going out until August, and there are certain reimbursable authorizations that account for a portion of that also that don't come due until later in the fiscal year.

Senator MCCLURE. You will have those allocations completed before the end of the fiscal year though in order that the expenditures may take place.

Dr. RHOADES. That is correct.

Senator MCCLURE. I wonder if you could provide for the record an updated distribution showing the final allocation of the fiscal year 1985 funds.

Dr. RHOADES. Yes, sir.

[The information follows:]

The attached table reflects the distribution of IHS resources through May 3, 1985. At the present time, the IHS is reviewing the current funding situation at all area/program offices. Based on these findings, by June 30, 1985, the balance of the resources will be allocated.

IHS ANNUAL ALLOCATIONS FY 1985
MAY 3, 1985

ACTNG PNT NO	45	53	65	59	46	47	41
ACTIVITY	ABERDEEN	ALBUQUERQUE	ALB HQ	ANCHORAGE	BEMIDJI	BILLINGS	CALIFORNIA
HOSP/HLTH CLIN	$30,921,500	$25,909,800	$1,217,000	$70,785,700	$18,778,100	$17,570,300	$20,275,400
DENTAL	1,872,000	2,405,000	554,000	3,033,000	926,000	1,651,000	329,000
MENTAL HLTH PROG	1,326,000	978,000	910,000	808,000	380,000	960,200	200,000
ALCOHOLISM PROG	2,736,000	1,843,000	6,000	1,444,000	1,788,000	1,796,000	2,873,100
MAINT & REPAIR	826,000	614,000	0	2,566,000	166,000	463,000	0
REIMBURSEMENTS	140,600	217,400	12,000	686,300	6,000	58,800	4,000
TOTAL HLTH DEL	$37,822,100	$31,967,200	$2,699,000	$79,323,000	$22,044,100	$22,499,300	$23,681,500
CONTRACT CARE	21,908,000	11,146,000	0	19,677,000	9,204,000	18,990,100	534,000
TOTAL CLIN SVC	$59,730,100	$43,113,200	$2,699,000	$99,000,000	$31,248,100	$41,489,400	$24,215,500
SANITATION	1,948,000	1,051,000	527,000	3,928,000	1,185,000	1,045,000	825,000
PHN	1,568,000	1,022,000	0	633,000	401,000	865,000	132,000
HEALTH ED	376,000	395,600	0	247,000	93,000	330,300	77,000
CHR	3,174,100	1,559,900	0	1,747,000	1,792,500	2,036,000	861,000
IMMUNIZATION	0	0	0	3,548,400	0	0	0
TOTAL PREV HLTH	$7,066,100	$4,028,500	$527,000	$10,103,400	$3,471,500	$4,276,300	$1,895,000
URBAN	$330,600	$330,300	$0	$0	$1,562,800	$488,300	$2,400,600
IND HLTH MNPWR	$83,000	$13,000	$0	$29,000	$35,000	$23,000	$3,000
TRIBAL MGMT	$206,000	$80,000	$0	$330,000	$178,000	$113,000	$295,000
DIRECT OPERATIONS	$5,214,000	$4,680,000	$3,416,000	$7,065,000	$1,718,700	$3,845,000	$1,816,300
TOTAL	$72,629,800	$52,245,000	$6,642,000	$116,527,400	$38,214,100	$50,235,000	$30,625,400

ACTNG PNT NO	54	50	40	64	42	51	94	TOTAL
ACTIVITY	NAVAJO	OKLAHOMA	PHOENIX	PORTLAND	TUCSON	NASHVILLE	HQ EAST	ALLOCATION
HOSP/HLTH CLIN	$61,236,300	$54,327,000	$48,559,600	$12,740,000	$7,147,400	$17,894,200	$22,353,600	$409,715,900
DENTAL	4,040,000	5,012,000	2,338,000	1,529,000	313,000	577,000	300,000	$24,879,000
MENTAL HLTH PROG	1,577,000	1,244,000	1,110,000	1,041,000	222,000	399,000	0	$11,155,200
ALCOHOLISM PROG	1,922,000	2,099,000	1,967,000	3,673,000	381,000	1,242,000	351,900	$24,122,000
MAINT & REPAIR	1,537,000	796,000	1,009,000	136,000	156,000	214,000	0	$8,483,000
REIMBURSEMENTS	615,700	10,000	1,014,600	72,100	10,500	4,500	238,400	$3,090,900
TOTAL HLTH DEL	$70,928,000	63,488,000	55,998,200	19,191,100	8,229,900	20,330,700	23,243,900	$481,446,000
CONTRACT CARE	19,242,000	16,923,000	14,688,000	19,447,000	4,437,000	6,933,000	0	$163,129,100
TOTAL CLIN SVC	$90,170,000	$80,411,000	$70,686,200	$38,638,100	$12,666,900	$27,263,700	$23,243,900	$644,575,100
SANITATION	3,189,000	2,212,000	1,940,000	1,185,000	351,000	435,000	88,000	$19,909,000
PHN	2,933,000	1,408,000	1,933,000	591,000	300,000	329,000	0	$12,115,000
HEALTH ED	584,000	390,000	555,000	301,000	26,000	93,000	0	$3,467,900
CHR	3,066,400	3,936,000	2,795,000	2,072,500	1,035,000	1,288,000	0	$25,363,400
IMMUNIZATION	0	0	0	77,600	0	0	0	$3,626,000
TOTAL PREV HLTH	$9,772,400	$7,946,000	$7,223,000	$4,227,100	$1,712,000	$2,145,000	$88,000	$64,481,300
URBAN	$0	$1,600,700	$490,000	$1,810,600	$162,200	$282,900	$341,000	$9,800,000
IND HLTH MNPWR	$12,400	$3,000	$8,100	$28,000	$8,000	$0	$369,700	$615,200
TRIBAL MGMT	$110,000	$265,000	$110,000	$170,000	$119,000	$231,000	$0	$2,207,000
DIRECT OPERATIONS	$4,256,000	$4,738,000	$5,800,000	$3,294,000	$2,139,000	$1,843,000	$8,647,000	$58,472,000
TOTAL	$104,320,800	$94,963,700	$84,317,300	$48,167,800	$16,807,100	$31,765,600	$32,689,600	$780,150,600

BETHEL NATIVE HOSPITAL

Senator McCLURE. The Bethel Native Corp., in Alaska has claimed title to the lands on which a new Indian Health Service hospital was built in the late 1970's. BNC proposed to purchase the hospital from the Government at a price of $50 million and then require the Indian Health Service to lease back the facility for a 50-year period at a cost of $325 million. This method was sanctioned in the Indian Health Care Improvement Act amendments which were vetoed last year. We understand that the recently reported House version of the IHS amendments authorizes purchase of the land on which the hospital is located by the Government.

Does the Department support that alternative?

Dr. RHOADES. The Department vigorously opposed what we call the Bethel amendment.

Senator McCLURE. Have you any estimate of the cost of the land?

Dr. RHOADES. There are two estimates that we are aware of. There is an estimate by the U.S. Fish and Wildlife Service of approximately $2.5 million, and then there is an estimate made by the Bethel Native Corp., itself of about $5 million.

Senator McCLURE. Once the authorization is passed, do you anticipate a budget request for the land purchase?

Dr. GRAHAM. Mr. Chairman, I think that judgment would have to await the exact format of the bill. As Dr. Rhoades has indicated, this is not a provision that we support, and whether or not that would be something that we felt that we could come forward and seek an appropriation on will have to await the action of the Congress and of the President.

BED UTILIZATION

Senator McCLURE. Information provided at the request of the subcommittee indicates that for fiscal year 1984, 40 of the 47 IHS inpatient facilities operated at less than 60 percent capacity. In fairness, though, it should be pointed out that the average length of stay in the IHS hospitals is below that of the U.S. average and that smaller facilities throughout the Nation usually have relatively low utilization rates.

It would seem to be prudent, however, to review the need for some of the IHS inpatient facilities in areas where community hospitals are available and have unused beds. There are three hospitals, Claremore, Clinton, and Lawton, which have utilization rates of about 55 percent. Within 25 miles of each of these hospitals there are either three or four community facilities with excess capacity.

Has any consideration been given to closing the inpatient portion of any of these hospitals and contracting with community facilities?

Dr. GRAHAM. The entire issue, Mr. Chairman, of the occupancy rates within the IHS hospital system as they may vary between hospital to hospital and within the areas is something that we do monitor and to which we do attend. In general, the decrease in utilization and particularly the increase in outpatient visits without attendant increase in inpatient visits we think may be a very positive trend if you believe it is better to keep people healthy and not in the hospital rather than vice versa.

The specific example of those three facilities and whether or not it would be appropriate given the mission of the Indian Health Service and the relationship with the tribal governments to move in a direction of utilizing non-IHS sites is something that is under discussion, but we do not have any specific plans to discontinue inpatient services of those areas. That then gets into an issue of additional cost, contract services, suitability of services, range of services, and we have begun some discussions about that in the last year or so. Those are very complex issues.

Senator McClure. It is a complex issue, and I understand there are several factors, but when you say it is in discussion, hasn't it been in discussion for a long while?

Dr. Graham. I would not deny that. I understood your question to be is this something that we are aware of and that we factor into our decisionmaking year in and year out. Yes; we do.

Senator McClure. But isn't it then fair to say that if nothing else has changed, it is still in discussion as it has been in the past, no decision is rendered, that that is really a decision against seeking community hospital contract services?

Dr. Graham. That is correct at the present time. That is right.

Senator McClure. I think it would be a fairer characterization then to indicate that you are considering it when actually you think about it, you discuss it, you probably analyze it, but you decide not to do it.

Dr. Graham. I guess the impression that I was trying to leave with you, sir, is that this is not a closed issue to us, at the present time. We do not believe the weight of evidence and our responsibility would dictate such a change.

PATIENT AND RESOURCE MANAGEMENT SYSTEM

Senator McClure. Two million dollars is requested to complete installation of a services based accounting system in 12 IHS hospitals during fiscal year 1986. Is this system currently in place in any other IHS facilities?

Dr. Rhoades. No, sir; this system is not in place in any of the other facilities at the present time. The development of a services based accounting system is one that the entire medical community in this country is dealing with, largely under the stimulus of prospective payment and what are called diagnosis-related groups, and so we find that there is not a good model and we have to develop a great deal of this ourselves.

We are pilot testing preliminary software related to this, and we expect that during the next year we will be able to make substantial progress in completing that, but it will be some time before it would be possible to replicate that in all facilities.

Senator McCLURE. So the $2 million is to do it in these 12 hospitals, test it there, see if it works, see how it works, and then make the next decision as to how rapidly you install that system other places?

Dr. RHOADES. Yes, sir; that is correct.

Senator McCLURE. And you have no current plans beyond those 12; is that correct?

Dr. RHOADES. That is correct for fiscal year 1986.

Senator McCLURE. The subcommittee has received complaints from tribes that while IHS pays for computer purchases at IHS operated facilities, at contracted facilities the tribes are advised to take the funds out of their base if they want computer systems. Is that accurate?

Dr. RHOADES. I would say it is not entirely accurate, although the statement that up until the present time we have not really had funds designated that would permit us to purchase equipment other than program funds, that is an accurate statement. However, the current plan for the development of an information system for Indian Health Service very clearly spells out the participation by the tribally operated programs feeding into a decentralized program at each service unit, and we have every intention that future plans and future potential requests will certainly include the tribal program.

DIABETES

Senator McCLURE. Senator Burdick.

Senator BURDICK. Thank you, Mr. Chairman.

Dr. Rhoades, I have a few areas that I would like to ask you about.

It has been reported to me that the incidence of diabetes is very great in the Indian areas. Is that true? If so, why?

Dr. RHOADES. Certain southwestern American Indians appear to have the highest rate of a certain kind of diabetes in the world, approaching 80 percent of all adults. This is what clinicians call type 2 diabetes, which is ordinarily not as severe as type 1 diabetes. Type 2 diabetes appears to be almost completely associated with obesity. We are directing our attention in a number of communities, particularly in the Southwest, in conjunction with the National Institute of Metabolic and Digestive Diseases and some of the tribes as part of health promotion and disease prevention activities, to active exercise programs and weight reduction, and there are a few instances that appear to be very, very encouraging.

Senator BURDICK. How much money under your programs will be used or allocated or dedicated to this disease?

Dr. RHOADES. We have what is called a special diabetes initiative that was started a few years ago by the Congress which basically was designed to permit us to establish some centers of excellence and demonstration projects around the United States for the transfer of information from diabetes experts to our general medical officers, and the total of that is $1.9 million this year. That doesn't represent a large fraction at all of the expenditures for diabetes, which like so many other diseases is taken care of in a variety of general medicine clinics and so forth, but I wouldn't want to venture a guess as to what portion of Indian Health Service budget goes to diabetes care.

Senator BURDICK. Do you have a program in North Dakota in connection with the university dealing with this subject?

Dr. RHOADES. Are you speaking specifically of diabetes?

Senator BURDICK. Yes; with Indians.

Dr. RHOADES. The closest that I would think of would be one of our special projects in Nebraska, which is taken care of out of the area office that we have in Aberdeen. I am not aware of a specific program in conjunction with the university directed at diabetes.

SCHOLARSHIP PROGRAM

Senator BURDICK. The Indian health manpower scholarships, which is 104, currently provided funding for 4 years. As some medical schools are now on an optional 5-year program, such as the University of North Dakota and Stanford, will there be accommodation made for these 5-year students now running out of money in their fourth year?

Dr. RHOADES. As I understand the question, you are speaking of scholarship students who have received scholarships up to the present time. It would be a decision that the program would have to make after discussion as to whether or not we would be able to continue those into a fifth year. There is one provision that might make it possible, and I would be very interested in exploring that, and that is that under a provision in law also moneys that are so to speak recaptured if a student drops out of a program can go back in to funding of students. I would anticipate that we would give very strong consideration to continuation of scholarships for those special programs that are 5 or 6 years.

Senator BURDICK. I hope you don't rely on funding the program on dropouts, because I don't want anybody to drop out.

Dr. GRAHAM. Senator, part of the constraints where we will have to operate is the President's proposal for no new funding of scholarships. There is an implicit commitment to carry through those individuals presently under scholarship obligation to the best of our ability within the funds available, given that we are not seeking any new funds, and within the programmatic guidelines consistent with the statute. If it is possible to support students presently receiving scholarships through the end of their legitimate educational course, we would wish to do that.

Senator BURDICK. Does that mean the full 5 years then?

Dr. GRAHAM. If they are into 5- and 6-year programs which the IHS has approved.

Senator BURDICK. Also, some University of North Dakota medical students received 104's during their undergraduate years and are now in their third or fourth year and facing no funding. Are you checking into this so that these students will not run out of funding before they finish medical school? You have answered part of that. But is it true that you are having trouble with the funds?

Dr. GRAHAM. Again, if I am understanding the question, sir, the budget policy which we are proposing to you is to not initiate any new scholarships in fiscal year 1986. It is a policy, though, which would have us continue the obligation of supporting students presently receiving scholarships.

Senator BURDICK. In other words, those that have 3 years should expect to receive enough for the 5 years?

Dr. GRAHAM. Consistent with this policy, we would anticipate carrying them through the end of their formal educational program.

Senator BURDICK. Thank you, Mr. Chairman.

DISTRIBUTION OF THE POPULATION

Senator McCLURE. Thank you, Senator Burdick.

One-half of the total U.S. population is now over 30 years of age while the median age of the Indian population is about 22 years of age. Page 48 of the justification indicates that IHS expects an increase of about 10 percent in the number of births in IHS hospitals in fiscal year 1986 as compared with fiscal year 1984. What is the significance of this demographic distribution with respect to IHS policy decisions?

Dr. RHOADES. I believe the greatest significance for current Indian Health Service policy is that we would expect that the Maternal and Child Health Program that we have and a special emphasis on what we call high risk obstetrical care in Indian Health Service direct care facilities will increase as that workload increases. It is interesting that the number of deliveries that have been done under contract have been declining in the last 7 or 8 years, modestly but steadily, the final implication of which I am not sure I could say at this time except to expect that a greater and greater proportion of deliveries that are done under contract will be truly emergency or very complicated pregnancies.

Senator McCLURE. Based on current trends what increases do you see in the IHS beneficiary population within the next 5 years?

Dr. RHOADES. The current increase in Indian beneficiary population is approximately 2.7 percent per year.

Senator McCLURE. Do you expect that to continue?

Dr. RHOADES. Yes, sir; we expect that will continue and probably not greatly change for the foreseeable future. I would be glad to supply you with the projections. I believe that we expect that the population will reach 1 million by 1990.

Senator McCLURE. Would you provide for the record the projections?

Dr. RHOADES. Yes, sir.

[The information follows:]

The attached table provides IHS beneficiairy population (service population) estimates calculated by the IHS for 1980–90. For each year, the IHS total service population and growth factor are shown, as well as population figures for each IHS area.

IHS SERVICE POPULATION BY AREA
1980 - 1990

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
All Areas	828,609	849,075	870,567	902,399	936,802	961,582	987,017	1,013,479	1,040,989	1,069,537	1,099,103
(Growth Factor)	—	(2.47)	(2.53)	(3.66)	(3.81)	(2.65)	(2.65)	(2.68)	(2.71)	(2.74)	(2.76)
Aberdeen	63,253	64,990	66,805	68,688	70,648	72,679	74,781	76,961	79,220	81,541	83,944
Alaska	64,047	65,743	67,521	69,383	71,329	73,351	75,461	77,647	79,917	82,267	84,702
Albuquerque	46,610	47,695	48,825	49,997	51,211	52,471	53,771	55,117	56,506	57,936	59,412
Bemidji	42,686	43,664	44,711	45,821	47,000	48,245	49,550	50,929	52,363	53,881	55,453
Billings	35,708	36,735	37,813	38,935	40,106	41,326	42,594	43,906	45,272	46,682	48,142
California	65,757	67,048	68,460	69,989	71,642	73,414	75,306	77,309	79,439	81,687	84,048
Nashville	26,731	27,181	28,136	30,664	35,822	36,413	37,025	37,663	38,332	39,021	39,736
Navajo	145,162	149,208	153,360	157,627	162,005	166,493	171,097	175,809	180,635	185,571	190,621
Oklahoma City	172,636	176,527	180,664	185,811	190,451	195,346	200,488	205,871	211,510	217,402	223,536
Phoenix	74,020	76,309	78,206	80,203	82,309	84,516	86,826	89,826	91,755	94,378	97,104
Portland	75,769	77,385	79,086	87,881	96,427	98,996	101,275	103,637	106,082	108,610	111,211
Tucson	16,230	16,590	16,980	17,400	17,852	18,332	18,843	19,386	19,958	20,561	21,194

NOTE: 981-1985 Geographical boundary changes to the IHS Service Population. The population increases due to the boundary changes are: 1981 = 518, 1982 = 484, 1983 = 7,750, 1984 = 11,175, 1985 = 383.

Source: Estimated Indian and Alaska Native Service Population by Area based on 1973-1982 vital events.

BROWNING HOSPITAL

Senator McClure. An increase of $1,326,000 and 39 positions is requested for additional staffing and operational costs of the Browning Hospital. No funds are requested in categories other than hospitals and clinics. New facilities generally require additional personnel in dental and mental health and in the various activities under preventive health.

What is the total need for these positions at Browning that is not reflected in the 1986 request?

Dr. Rhoades. We project that the total positions required for Browning spread across those categories that you just outlined, including other than just hospitals and clinics, is 158, for which we have available in 1985 101, for a difference of 57. We have included in the 1986 request 39 positions to make up this 57 and have elected to request those in the hospitals and clinics category.

Senator McClure. For the record, would you please provide a list by activity of currently authorized positions for Browning, the estimated staffing requirements and their associated costs, and the estimated timetable for meeting these requirements?

Dr. Rhoades. Yes, sir.

[The information follows:]

The following is a summary of the total staffing request for Browning Hospital for fiscal year 1986 by budget activity.

STAFFING SUMMARY FOR BROWNING HOSPITAL FISCAL YEAR 1986 BUDGET REQUEST

	Total required	Total available fiscal year 1985	Total unmet need	Included in fiscal year 1986 request	Additional position costs
	(Positions)	*(Positions)*	*(Positions)*	*(Positions)*	*($000's)*
Hospitals and clinics	125	84	41	39	[1] 1,394
Dental	13	8	5		170
Mental health	1	1			
Total preventive health	19	8	11		374
Community health nurse	(9)	(5)	(4)		(136)
Environmental health	(9)	(2)	(7)		(238)
Health education	(1)	(1)			
Total	158	101	57	39	1,938

[1] Includes $1,326,000 to support 39 positions in fiscal year 1986 budget request.

SHIPROCK HOSPITAL

Senator McClure. Subcommittee staff recently visited the Shiprock Hospital. The major complaint was understaffing, which seems to be borne out by information provided to the subcommittee last year which showed that Shiprock was staffed at only 66 percent of its authorized positions. Shiprock staff indicated that as many as 18 doctors may be leaving that facility within the next year.

What steps has IHS taken to address the staff shortage at Shiprock?

Dr. Rhoades. The staff shortages at Shiprock are, in my opinion, not substantially different from staffing shortages in many clinical facilities throughout the country, and the way that we are attempting to deal with this at the present time is, beginning next week, a series of meetings with each area management, discussing in detail with them the plans for dealing with staffing for the remainder of this fiscal year as well as anticipating 1986.

Senator McClure. Do you think the understaffing at Shiprock is no different than it is at other facilities?

Dr. Rhoades. In general terms I believe that that is a true statement.

INDIRECT COSTS

Senator McClure. An increase of $5 million is requested to provide administrative costs associated with tribal contracts. Is the total amount to support indirect costs of first-time contracts?

Dr. Rhoades. Yes, sir; that is the way that the budget projection shows. That is what we would anticipate that that would be used for.

Senator McClure. Funds for indirect costs have never been specifically identified in the IHS budgets and only on rare occasions have any funds been added by the Congress for this purpose. A number of tribes have been contracting with IHS for years without the benefit of these funds.

How does IHS intend to ensure an equitable distribution of the $5 million between new tribal contracts and ongoing contracts?

Dr. Graham. I think this is one of the areas, as Dr. Rhoades indicated, that we would be having to work out over the next year, given the availability of the funds. I think the steps that he has taken in proposing to identify this category for the first time are generally consistent with a number of the critiques and comments that we have received by tribes presently with 638 contracts, or who are considering initiating them, who have expressed their concern about maintaining a level of services when the indirect costs must come from that service base.

The thrust of Dr. Rhoades' proposal is to identify a budget category from which we could provide some indirect costs. This would not cover even the total of what we might project would be indirect costs. The mechanism which we would use to allocate that money to new contracts, to renewals, is something that we have not yet come to closure on.

Senator McClure. If the $5 million requested is to support the indirect costs of first-time contracts what are you going to do about all the rest of the contracts? What is the estimated cost at the same level of support?

Dr. Graham. We would provide that estimate to you for the record. It would require review of the present level of direct contract funds. I think the principle which is important is that the tribes have indicated to us that some barriers to their pursuing 638 contracting, which is an integral part of self-determination, is the indirect cost hurdle. What Dr. Rhoades' proposal would allow us to do, even if only for first-time contract awards, is to reduce or eliminate that barrier and hopefully support the further expansion of 638 contracting.

Senator McClure. You have made no decision as yet? You are just undertaking the review?

Dr. Graham. As Dr. Rhoades indicated to you, his inclination would be to make these funds available just to first-time contractors. It could well be based upon our experience either with planning that impact or with running it that way for a year or two that we might decide in the interest of equity that should be expanded.

Senator McClure. I am always concerned when there is a one-time funding for a continuing expense. We get them into an operation that then requires additional money.

Dr. Graham. Yes; however, the budget process, of course, is one where there are no assurances past any particular given fiscal year, and so everything can be looked at as a potential one-time expense.

I believe it is safe to assume it would be the intent of the agency if this is acceptable to the Congress and if it appears to be working well with the tribes that we would continue to seek appropriations under this category in future years.

Senator McClure. That could well be, but I am trying to get some idea of what the impact of this would be not just for the 1986 budget but in future years as well. You may do it just for first-time contracts. If you do that, then that is easier to measure and a lower budgetary impact, but the demand gets almost inexorable once you have granted it unless there are nonrecurring costs.

Dr. Graham. I believe most of us are in general agreement, given the intent of the Indian Self-determination Act and the provisions of the title in that law, that we wish to move to a point where more and more of the responsibility of direct delivery of health services is a responsibility which the tribes themselves contract for and control. We are simply trying to find mechanisms which may smooth our way to that objective.

FOND DU LAC CLINIC

Senator McClure. The Fond du Lac Business Committee has secured private financing to construct a replacement clinic. As you know, they are seeking an increase of $287,800 over the current base of $25,300 from the Indian Health Service for additional lease costs. This clinic is currently ranked 16th on the priority list for new construction. In the normal course of events it would be 5 or 6 years before funds were appropriated for new construction.

Bill language was added last year allowing tribes to expend funds other than IHS appropriations for major renovation and modernization subject to certain conditions: IHS would not be obligated to provide additional equipment or staff; IHS standards for construction must be followed; the area director must approve the project; and no project would be authorized if it would require the diversion of funds from meeting the needs of projects having a higher priority on the current health facilities priority system.

While Fond du Lac proposes new construction as opposed to renovation, I think the stipulations placed on tribes who wish to seek funds outside the Service for construction rather than waiting their turn on the priority system are still valid.

What is the Indian Health Service position on this matter?

Dr. RHOADES. One of the interesting side effects, in my opinion, sir, is the fact that a number of Government programs in the past have been so successful that a number of tribes are becoming sufficiently sophisticated that they would like to construct facilities on their own. This has to be applauded, and Indian Health Service certainly applauds that effort.

Senator MCCLURE. Do you think that the standards that are applied should apply to the new construction?

Dr. RHOADES. Yes; I do, although I would hasten to add that this being a somewhat new phenomenon for us I wouldn't want to make any statements as to the value of various approaches to supporting tribes in this endeavor to be such that I wouldn't be willing to change with further discussion and as new information becomes available.

CONSTRUCTION WITH PRIVATE FUNDING

Senator MCCLURE. The subcommittee has been approached by other tribes who want to seek private funding for hospital construction and who seek to have Congress or the Indian Health Service provide assurance that the necessary funds to repay the principal, interest, and operating costs of the new facilities will be available. If Fond du Lac were to proceed in this manner could we be opening the way for a number of other tribes to follow suit?

Dr. RHOADES. I certainly believe it would be a precedent that would indeed lead to that. In previous years Congress has always directed Indian Health Service to seek authorization from Congress before committing the Government to long-term leasing costs. We would expect that that would be a procedure that would be very useful in the future, and we would anticipate the evaluation of each tribal request on the merits of the request as it comes in on a case-by-case basis.

In fact, we have a very elaborate planning system now for new hospital and clinic construction and renovations, and this new phenomenon that you just pointed out needs to be wedded to our existing procedure in some way that it doesn't disturb the priority listing, and yet I don't want to become so rigid that tribes that want to seek funding on their own should get in line and wait their turn on the priority list, which might be further down the list. As you pointed out, we might not reach them for several years.

Dr. GRAHAM. Mr. Chairman, I think you have mentioned a very important point. As part of Dr. Rhoades' response, we do applaud the initiative on the part of any tribe that may be able to secure private or local support for any development or improvement within the reservation. However, if it is implicit in these initiatives that somehow an agency of the Federal Government, whether it is the IHS on health matters or someone else for other matters, is to stand behind that commitment and to provide some long-term assurance of meeting all the requirements of the note and interest and insurance and everything else, that to me is a little different than what my term private financing usually brings to mind, and indeed what we are talking about could be viewed as a long-term financing of Federal dollars rather than dealing with these things as we do on the construction priority list.

There is a reason that we have a construction priority list, and that is because it has been a shared judgment between the President and Congress in the past that we can't do everything all at once all the time.

If, without trying to stifle local initiative, we can still come to some understanding that initiative and private financing does indeed mean what it says and is not just another way into the Treasury by having us cosign a 30-year note, that, I think, is what we need to sort out in the case of Fond du Lac or anything else that may come along.

Senator McClure. The proposal submitted by Fond du Lac also calls for an additional 20 positions in the first year of operation and asks that Congress direct the Indian Health Service to increase the building size from 12,000 square feet to 23,412 square feet. Should we interpret the latter to mean that Fond du Lac expects the Indian Health Service to seek construction funding to complete the project?

Dr. Rhoades. I hesitate to speak for Fond du Lac, because this is a relatively new development in our continuing negotiations with Fond du Lac. It is my anticipation that, yes, they probably would expect us to request that.

Let me just add, however, following up on the points that Dr. Graham made, that Indian Health Service at the present time would not anticipate that we would make such a request until such time as Fond du Lac comes in our top 10 priority listing, which would then place it in the normal course of events.

MAINTENANCE AND REPAIR

Senator McClure. Eight million six hundred seventy-three thousand dollars is requested for maintenance and repair. Two million dollars of this amount will be used to meet the backlog of essential maintenance and repair deficiency items. That backlog is currently estimated to be $64.7 million. What is the additional amount added to the BEMAR list on an annual basis?

Dr. Rhoades. Our estimate of the increase in the backlog of essential maintenance and repair is approximately $8 million per year. The backlog shown on page 61 in the budget justification for 1986 of $64.7 million will be reduced by the $2 million for what we call the high priority deficiency items funded in 1985 and by $2.08 million for six modernization and repair projects, also funded in 1985. So in 1986 the BEMAR will increase by approximately $4 million, from approximately $64 million to $68 million.

Senator McClure. In other words, we are falling behind?

Dr. Graham. We would in this particular fiscal year request not be able to keep up with our estimation of demand for this function.

FISCAL YEAR 1985 PAY ACT SUPPLEMENTAL

Senator McClure. No funds were requested for a pay supplemental in the current year. The House Interior Appropriations Subcommittee has provided more than $9 million for this purpose, which would not require IHS to absorb any of the costs of the pay raise. Under the House proposal all other agencies funded by our bill would be required to absorb between 30 and 35 percent of the pay costs. What argument does IHS make for pay that has resulted in such favorable treatment by the other side?

Dr. Graham. That was not a result of any proposal that we made to that committee.

Senator McClure. You didn't request it? They just gave it to you?

Dr. Graham. We did not request it. That is correct. They proposed to give it to us.

Senator McClure. Additional funds were provided by Congress to hire new staff during fiscal year 1985. Based on current hiring rates, will any of these funds be available to absorb a portion of the pay requirement?

Dr. Rhoades. No, sir; none of that will be available to absorb this since those funds have already been committed and people have been hired with those.

CONTRACT CARE

Senator McClure. One hundred sixty-five point eight million dollars is requested for contract care in fiscal year 1986. The cost per patient for dental services is shown as $220 in 1986. Does this figure represent only one visit per patient, or multiple visits?

Dr. Rhoades. That represents an average per patient. That includes a multiplicity of services, including laboratory services as well. It is not just the usual dental visit.

Senator McClure. The cost per visit for ambulatory care is estimated to be $124. Just based on personal experience, this seems to be about twice the average for a doctor's office visit around here. Are these services used for preventive health care or only to deal with more serious health problems?

Dr. Graham. I believe, sir, that those averages may not do service to understanding the real cost of the Indian Health Service activities. There is a tendency to take an aggregate dollar amount, divide that through by a number of encounters and come out with that average. As a matter of fact, although you describe that average as being about twice what it is around here, in other ambulatory settings that our agency administers in the Community Health Centers Program we actually see per-patient visit costs of around $35 to $37.

One of the reasons that Dr. Rhoades and his staff are pursuing the computer based operation that you discussed a little bit ago is to allow us to have a better sense of what our costs per encounter are in inpatient and outpatient facilities. Other than that, all we can do is give you the roughest idea of what the per-visit costs might be, and as Dr.

Rhodes has indicated, it is very difficult to separate out what costs are attributable to the interaction with a physician, a nurse, or a dentist versus laboratory costs versus some other costs. I do not think that those averages serve us well.

Senator McCLURE. Is there an alternative to making those estimates?

Dr. RHOADES. Yes, sir, the cost accounting system.

Senator McCLURE. That you are going to put in.

Dr. GRAHAM. That is right.

Dr. RHOADES. Yes, sir.

Let me add also that is an average cost. It includes pharmacy services and laboratory services, x ray services, and that is clearly the reason for the larger number compared with the usual physician visit.

Senator McCLURE. You mean the ambulatory care is more than the doctor's visit cost?

Dr. RHOADES. That is correct.

Senator McCLURE. Could you provide for the record a breakdown of those additional services that are included within that category?

Dr. GRAHAM. We certainly can provide you a listing of the services.

[The information follows:]

The primary components of contract ambulatory care are: physician services, x ray, laboratory, emergency room services, prescriptions, and medical supplies.

COMPUTER SYSTEM NEED

Dr. GRAHAM. I do not believe that data is presently available to provide you a breakout of those costs. If we had that type of data we wouldn't need the computer system. It is just a reflection of the idiosyncrasy of the way the IHS system has developed in the last 20 years that there is no cost accounting system, largely because the IHS operates on a top-down appropriation distribution rather than a bottom-up cost center as you would see more commonly in the private sector.

I do believe that the intention of Dr. Rhoades and the IHS staff is to put us in the position where we have that information within the next 2 years.

Senator McCLURE. Approximately $87 million will be used for contract medical and surgical hospitalization. The justification contains an interesting statement that this "will be sufficient to fund all of the fiscal year 1985 workload through fiscal year 1986, except approximately 685 hospital admissions." What would be the estimated cost of those 685 admissions?

Dr. RHOADES. We expect that that would represent approximately 3,285 hospital patient days and an average cost per day of $872 for a total of approximately $2.9 million.

SURGICAL BACKLOG

Senator McCLURE. Does IHS maintain a listing of the backlog of required contract medical and surgical hospitalization?

Dr. RHOADES. We do not keep a backlog as such. We have a system which permits us to estimate very closely. For example, we can identify currently that there are about 1,200 patients that we would put in what we call the high risk obstetrical category and about 800 high risk pediatrics patients. For the former we would assume a cost of approximately $1.8 million and for the pediatrics cases approximately $4.3 million; in the case of surgery, approximately 1,100 cases that would cost about $4.5 million; 141 patients receiving renal dialysis that would cost about $960,000; and then rehabilitative services for such things as spinal cord injuries, about 50 patients, costing approximately $2.6 million.

Senator McClure. Those patient loads that you anticipate, are those pretty easily calculated? Are you pretty sure of those figures?

Dr. Rhoades. Yes, sir; I think those are pretty firm.

Senator McClure. Doesn't that then mean that your $87 million is substantially below your expected need?

Dr. Graham. If the thrust of your question, sir, is would we argue that the request in the budget proposal will cover all possible projected needs, no, we acknowledge that it will not be possible to cover those needs; it is a matter of prioritization.

Senator McClure. If I add those up very quickly, it seems to me it comes out to be little less than $15 million you identified of expected needs in addition to the $87 million for which you have made a budget request.

Dr. Rhoades. I am sorry. I didn't mean to be misleading. That is not the expected needs; that is what we can identify that we know, the nearly $15 million.

Senator McClure. Is that a part of the $87 million?

Dr. Rhoades. Yes, sir, that is a part of the $87 million.

CATASTROPHIC HEALTH FUND

Senator McClure. The amendments to the Indian Health Care Improvement Act will probably pass the Congress prior to action on this budget request. One of the new initiatives is the establishment of a catastrophic health care fund which would be used to pay for the costs of services once an amount of between $10,000 and $20,000 had been spent on a single case. The fund is authorized at a level of $12 million.

Does the Department support the funding of this fund?

Dr. Graham. We do not support the establishment of a separate authorization to meet such costs.

Senator McClure. Based on past experience, in how many cases would this fund be used on an annual basis?

Dr. Rhoades. If we use $20,000 as a trigger point for what we would define as catastrophic cases, we would expect to provide care to approximately 121 individuals.

Senator McClure. What would the figure be at $10,000?

Dr. Rhoades. At $10,000 it would obviously be greater; it would be about 400.

Dr. Graham. The principle behind our opposition, Mr. Chairman, is that we do not believe that it is necessary to establish a separate authorization. At the present time the IHS does attempt to meet those potentially catastrophic needs within the given areas by moving resources around as necessary. We feel that the establishment of such a separate authorization might limit the IHS flexibility rather than increase the coverage.

COMMUNITY HEALTH REPRESENTATIVES

Senator McClure. Again in fiscal year 1986 no funds are requested for the Community Health Representative Program. The impact of zero budget requests for 5 years in a row has been to keep the program at about $25 million rather than expanding to a level of between $50 and $60 million if the years between 1978 and 1981 were used as a guide.

In the past several years IHS has become more involved in reviewing and upgrading CHR Program standards. Realizing that we do have to deal with budget deficits, we see where the CHR Program ranks, but based on the evaluations over the past several years, is there an appropriate level of CHR support other than the rather arbitrary number the committee has used for the past several years?

Dr. Graham. Certainly consistent with the budget before you we do not feel that it is possible in fiscal year 1986 to seek appropriations for the CHR Program. That is not a reflection of an evaluation which indicates that that program is not effective or does not achieve some good outcomes; it is simply a difficult decision made in the face of a large Federal deficit and a recognition that domestic spending must be somewhat restrained; and, therefore, it was a difficult choice for us leading to the budget proposal which we are presenting.

Senator McClure. I understand that you decided not to include it in the budget request. My question was really do we have any better guideline if we are going to ignore your zero request and simply come up with $25 million as we have each of the last several years?

Dr. Graham. If you are going to ignore my zero request I am probably not the best witness to suggest any alternative guidelines.

Senator McClure. Thank you. And I am not saying that I know what Congress will do; I only know what we have done.

Dr. Graham. I understand that.

SCHOLARSHIPS FOR NATIVE HAWAIIANS

Senator McClure. The health care amendments would make native Hawaiians eligible for scholarship support from the Indian Health Service and would allow service obligations to be met by private service in areas where native Hawaiians are underserved in addtion to the traditional service repayment options.

Does the Department support expansion of any portion of the Indian Health Service programs to include native Hawaiians?

Dr. Graham. No; we would not, Mr. Chairman. That is not to suggest that there may not be legitimate needs on the part of the native Hawaiians which potentially should be addressed in some forum, but it would be our feeling that given the statutory history of the Indian Health Service as an arm of the Federal Government providing services to members of recognized tribes who entered into treaty agreements with the United States, that that is an entirely different statutory basis for our activities than any relationship the United States might have with individuals of native Hawaiian ancestory. Therefore, to put such individuals within the authority of the IHS would not appear to be the proper area if there is to be any Federal support of their interests.

Senator McClure. Have you any estimate of the number of native Hawaiians in the country?

Dr. Graham. I think our estimate is there are some 53,000 individuals who indicate native Hawaiian ancestry presently living on the mainland and some 158,000 of such individuals presently residing in the islands.

DEMONSTRATION PROJECT

Senator McClure. Section 719 of the Senate reported bill also directs the Secretary to establish a demonstration project in Hawaii for health promotion and disease prevention not only for native Hawaiians but for any indigenous people residing in Guam, American Samoa, the trust territory, or the Northern Mariana Islands. This covers hundreds of thousands of people spread over vast geographic distances.

As you probably know, the territories, Guam, American Samoa, and the Northern Marianas all receive funds through the Office of Territorial Affairs in the Department of the Interior, which also falls under the jurisdiction of this subcommittee. Among other things, funds have been provided for health care and the construction of health facilities.

The Federal Government's responsibility to these people is far different than to American Indians and I would hope that the Department would do everything possible to ensure that the Indian Health Service is left out of any responsibility in the territories even if the Secretary is directed to make certain studies or conduct demonstration projects.

Dr. Graham. I think we understand your concern. I am pleased to say I believe we are in agreement.

TRIBAL MANAGEMENT

Senator McClure. No funds are requested for tribal management activities, a decrease of $2.4 million below the current level. These funds have been directed toward giving tribes the training and management capabilities necessary prior to contracting for the operation of IHS programs.

Zeroing this program seems inconsistent with the requested increase of $5 million in the hospitals and clinics budget to meet the overhead costs for new contracts. Why initiate a line for meeting these increased costs while terminating the program which gives the tribes the capability to contract in the first place?

Dr. Graham. Again, Mr. Chairman, an area where it was necessary for us to make a set of very difficult choices. The fact that we would not be seeking an appropriation for this activity does not mean that the Indian Health Service through the staff presently onboard and in the various service units would not be able to provide continuing technical assistance and consultation to tribes wishing to develop a 638 proposal. We would not be able to do so in the structured sense that has been possible under this grant program.

STAFF REDUCTION

Senator McClure. A 10-percent staff reduction is proposed for both headquarters and the area offices. Are other branches of HHS being requested to make similar reductions?

Dr. Graham. In general, the implication of the President's proposal to you would be some substantial reductions in various places of the Department. This, of course, is uneven in its impact. I can say within the other entities that I am responsible for in the agency we would be discontinuing two programs. One of a bureau size itself totally would be turning one program into a block grant, which would itself lead to the discontinuation of Federal service of some 600 people.

So it is fair to say that consistent with the President's proposal there are a number of discontinuations and cutbacks in other parts of the budget.

Senator McClure. Do you plan to carry out this reduction through attrition or will a RIF be necessary?

Dr. Graham. Those decisions will have to be made once we see what the final action on the 1986 appropriation is and the statutory authorities under which we are operating. In those other parts of the agency that I mentioned, if we do have such an event as a discontinuation of a bureau, we certainly would have to accomplish that by a reduction in force.

It has been our experience in the past that in at least one given fiscal year you may be able to accomplish as much as a 10-percent staff reduction by attrition rather than reduction in force, but that is probably the outside limit in a given fiscal year, and it depends very much on your starting point.

So the short answer is reductions of that magnitude require very careful examination. They may require a reduction in force, but it is premature to conclude that at the present time.

CARRYOVER BALANCE

Senator McClure. The Indian Health Service has a carryover balance plus new appropriations of $97,765,000 available for obligation in the current fiscal year. Actual construction obligations have been $37.4 million in fiscal year 1983 and $37 million in fiscal year 1984.

It would appear that we have about 3 years' worth of funding currently on hand. Of the funds available how much do you really think will be obligated during 1985?

Dr. Rhoades. We anticipate that all but approximately $12 or $13 million of that will be obligated by the end of 1985.

Senator McClure. You mean about $85 million additional?

Dr. RHOADES. Yes, sir, $84 or $85 million.

Senator MCCLURE. Double the level of the years before?

Dr. RHOADES. I have not calculated that, but that is what I would expect. We would be happy to supply for the record an actual distribution of the obligations to date of that.

Senator MCCLURE. I would appreciate that. I would also have to comment for the record that is what you told us each of the last 2 years.

Dr. GRAHAM. Dr. Rhoades assures me that this year it is right.

[The information follows:]

During fiscal year 1985, approximately $56,917,000 will be obligated. Funds in the amount of $6,375,000 are being held for four proposed Public Law 93–638 projects and will be obligated when approvals are received. The balance of $34,473,000 is made up of $406,000 for completed projects that may be reprogrammed: under hospitals: new and replacement, $4,900,000 for a delay in design of a hospital: and $1,650,000 for a change in plans to contract for development of a PID; under outpatient care facilities, $3,249,000 that will be obligated for construction in November 1985 as design for this clinic will not be completed until August 31: and $3,009,000 for delayed project schedule caused by time requirements to proces a proposal for a Public Law 93–638 design contract that has been rescinded: $21,259,000 balance is being held for contingencies and equipment funds held in reserve until needed for individual projects.

SPENDING OF FUNDS

Senator MCCLURE. Is $37 to $40 million the most that IHS can realistically spend, or do you really think you will get $85 million?

Dr. GRAHAM. I'm sorry, sir. I don't understand the question. I thought we were talking about carryover.

Senator MCCLURE. You have gotten $37 to $45 million each of the last 2 years. This year you say you are going to double that amount. Is that really realistic?

Dr. GRAHAM. As Dr. Rhoades has said, he will supply to the committee for your review our projection of how those funds will be expended.

Senator MCCLURE. If you would do so, please. We will make that a part of the record.

Dr. RHOADES. If I might make a corection right now.

Senator MCCLURE. Surely.

Dr. RHOADES. I was looking at a wrong column. We expect to have obligated by the end of September 1985 $46.5 million.

Senator MCCLURE. That is more in line. So there would be about $50 million unobligated.

Dr. RHOADES. I am sure that the substraction would come out that way, yes.

Senator MCCLURE. Thank you very much. Those bells indicate that we have a vote on the floor and I am near enough to the end that I think I will submit the balance of the questions for response in writing for the record.

ADDITIONAL COMMITTEE QUESTIONS

Dr. Graham and Dr. Rhoades, I want to thank you for your testimony today. There may be some other questions from other subcommittee members or other members of the Senate that would be submitted for the record.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Additional Questions Submitted by the Committee

Patient Registration

QUESTION: In an effort to better identify the eligible service population, IHS instituted a registration procedure about a year ago. From the information provided in the justification it appears that Nashville and Oklahoma are lagging behind in registering patients. Is this a voluntary or mandatory activity?

ANSWER: The registration of patients is mandatory. As a patient presents himself/herself for care, he/she is registered. Using this approach it may appear that certain areas are lagging when, in fact, they are registering the patients as they present themselves.

QUESTION: How will this data be used once compiliation is complete?

ANSWER: The data will be used to develop various reports relating to patient data, to plan in the future for actual utilization, and as an improvement in future resource allocations.

638 Contracts

QUESTION: It is estimated that new contracting will lead to a reduction of 85 FTEs. What is the dollar amount of savings associated with this reduction?

ANSWER: The savings associated with the reduction of 85 FTE's is approximately $2.8 million.

Distribution of the Population

QUESTION: A number of IHS facilities do not provide obstetric services. How does the increase in the number of births supported by contract care funds compare to the increase in the number of births at IHS facilities?

ANSWER: Contrary to the IHS direct care experience, the number of births paid for with contract care funds has been trending downward since 1978. Attached is a table showing the number and percent IHS and contract to total births.

Attachment

NUMBER OF BIRTHS AND PERCENT IHS AND CONTRACT TO TOTAL BIRTHS
FOR INDIANS AND ALASKA NATIVES IN U.S. AND IN RESERVATION STATES

Fiscal Year	Total Indian Births in U.S. 1/	Births in Reservation States 1/ 2/	Total IHS and Contract Births	IHS Births	Contract Deliveries 3/	PERCENT: IHS & Contract to Total Indian Births in U.S.	PERCENT: IHS & Contract to Total Indian Births in Reservation States
1984	NA	NA	15,938	12,453	3,485	NA	NA
1983	41,711	38,560	16,222	12,700	3,522	38.9	42.1
1982	37,448	34,205	15,983	12,262	3,721	42.7	46.7
1981	37,171	33,937	15,198	11,566	3,632	40.9	44.8
1980	34,494	31,843	14,797	11,034	3,763	42.9	46.5
1979	33,186	29,857	14,846	10,583	4,263	44.7	49.7
1978	30,824	28,198	14,622	10,291	4,331	47.4	51.9
1977	29,375	26,748	14,202	10,420	3,782	48.3	53.1
1976	27,887	25,457	13,431	9,920	3,511	48.2	52.8
1975	26,437	24,301	12,862	9,768	3,094	48.7	52.9
1974	26,059	23,757	13,041	9,690	3,351	50.0	54.9
1973	25,830	23,752	13,391	9,844	3,547	51.8	56.4
1972	25,939	23,806	13,025	9,923	3,102	50.2	55.4
1971	25,880	23,806	12,571	9,753	2,818	48.6	55.0
1970	24,008	22,746	11,534	8,928	2,606	48.0	53.8
1969	24,156	21,602	11,392	8,560	2,832	47.2	52.7
1968	22,665	20,658	11,162	8,460	2,702	49.3	54.0
1967	23,014	21,100	10,998	8,365	2,633	47.8	52.1
1966	24,066	22,370	11,823	9,008	2,815	49.1	52.9
1965	24,382	22,782	12,205	9,516	2,689	50.1	53.6
1964	23,832	22,274	12,401	9,458	2,943	52.0	55.7

NA - Not Available.

1/ Also included are Indian and Alaska Native births not performed as IHS or contract deliveries. Data are January through December prior to the fiscal year specified.

2/ Maine, New York and Pennsylvania included as Reservation States beginning in calendar year 1979.
Contract data are for number of deliveries, including live births and still births.

QUESTION: Will most of those positions be picked up by tribal contractors?

ANSWER: At the current time, it is not practical to project the number of positions will be picked up by tribal contractors. This will be determined at the time of negotiations with the contractors.

Program Decrease

QUESTION: A reduction of $10,717,000 is proposed for hospital and health clinic programs. How much of this reduction is associated with the termination of the Community Health Representative emergency medical services program?

ANSWER: Approximately $4 million.

QUESTION: What other activities will be impacted by the reduction?

ANSWER: The other activities include inpatient, outpatient, eye care, otitis media, and other items such as travel, training, and supplies.

QUESTION: Are funds included in the request to continue the Community Health Aide program in Alaska? At what level?

ANSWER: Prior to FY 1981, funds for the Alaska Community Health Aide (CHA) Program were requested as a separate budget line item. Since that time, the funds have been requested as part of the total Hospitals and Clinics (H&C;s) appropriations request. Since being merged in the H&C budget, the Alaska Area has passed on mandatories, etc., for the CHA program with the level being dependant on total Area budget allocations. For FY 1985, the level is projected to be approximately the same level.

Fond du Lac Clinic

QUESTION: What would be the additional annual cost of the additional 20 positions which they seek? For the record, please provide an analysis of the cost to the federal government of direct construction of the Fond du Lac Business Committee.

ANSWER: The Indian Health Service will seek funds through the normal budgetary channels when the Fond du Lac facility is among the top ten on the IHS Priority System list for ambulatory care facilities. The size of the facility will be determined when a Program Information Document is developed.

Medicare and Medicaid

QUESTION: An estimated $54 million will be collected from Medicare and Medicaid in fiscal years 1985 and 1986. Actual expenditures from these funds totalled $29.9 million in fiscal year 1984. How much was collected in fiscal year 1984?

ANSWER: A total of $26,667,000 was collected from Medicare and Medicaid in FY 1984.

QUESTION: Based on current collection rates, do you still anticipate that $54 million will be collected this year?

ANSWER: For 1985, we have received an apportionment from the Office of Management and Budget in the amount of $44,100,000 representing reimbursements from Medicare/Medicaid billings and a second apportionment that includes $7,500,000 for reimbursements earned through interagency agreements.

QUESTION: $10 million of the collections are proposed to offset built-in cost increases as part of the '86 budget. Report language was included with the '85 bill directing a similar offset, but it is our understanding that this was not accomplished as specific bill language was not included. Is that correct?

ANSWER: It is true that specific bill language was not included in the 1985 reimbursements from the two-year Medicare/Medicaid account to the one-year general operations account. However, we have been able to organize our expenditures in such a way as to essentially implement the report language to which you refer.

QUESTION: Has this $10 million difference in the services account resulted in any measurable shortfall so far this year?

ANSWER: We have continued to provide a full range of health care services to the extent of the funding made available by Congress.

Pay Supplemental

QUESTION: If the full pay requirement is not provided through new appropriations, from what areas will IHS meet these costs?

ANSWER: The absorption of the pay act will be accomplished primarily by lapsing of positions and by reductions in such support requirements as travel and supplies.

Administrative Costs

QUESTION: How many service units does the Indian Health Service operate?

ANSWER: The IHS operates 79 service units.

QUESTION: There are also 8 Area Offices of IHS. From the charts provided on pages 33 and 34, it appears that the 8 Area Offices receive about $46.3 million for administrative costs while the total for all the service units for administrative costs is estimated at $33 million (p.71). In view of the items covered by administrative costs at the service unit level (p.73), this appears to be a great disparity in funding. Pleas provide a full explanation of the reasons for the higher funding levels for the Area Office.

ANSWER: The administrative costs for the 8 Area Offices covers the cost for approximately 1,072 positions. These positions have the responsibility of providing both administrative and technical support to the service units. The administrative costs at the service units are made up of some full-time administrative personnel and some medical personnel who spend part of their time each day providing administrative support.

Hepatitis B Screening Program

QUESTION: $2,721,000 is requested for the final year of the hepatitis B screening program in Alaska. The Indian Health Care amendments contain a provision which would require the President to submit a budget request for this activity for the duration of the authorization period of the amendments. Does the Department support this provision?

ANSWER: Yes, the department supports this provision as evidenced in the FY 1986 and FY 1987 budget requests. Presently, there are signed or negotiated contracts with fourteen (14) corporations and the State of Alaska to immunize all susceptible Alaskan Natives against Hepatitis B. Each of these programs requires an additional contract which will be paid for by the FY 1986 $2,721,000 requested. Failure to fund this program would undermine the ongoing and good working relationships of the Indian Health Service with the Native American Corporations and would be devastating to patient care, resulting in approximately $1,400,000 of vaccine not purchased and only partial immunization for a great number of at-risk Native Americans. Furthermore, surveilance could not be maintained on 1500 carriers of Hepatitis B. This surveilance provides early detection of primary liver cancers at resectable stages resulting in prolonged lives and lower overall medical/hospital costs.

QUESTION: It is possible to comply with the terms of the provision simply by indicating the amount of funds contained in the regular base budget of the Alaska Area which would be used for on-going control of hepatitis-B.

ANSWER: Yes, if funds are provided for program maintenance they would be part of the Alaska Base budget.

Direct Operations

QUESTION: An increase of $1 million was provided by Congress for a training program in fiscal year 1985. Have those funds been spent?

ANSWER: Not all of the $1 million for Program Management Training has been spent. We are in the process of spending this fund according to our training plan, which has been forwarded to this Committee. We expect to utilize the entire fund by the end of the fiscal year.

QUESTION: What is the current design of the training program?

ANSWER: The design of the Program Management Training Program is comprehensive and long term in perspective. It involves a wide array of effective training methodologies. Particular focus is placed on upgrading the qualifications of the primary service unit decision making team of service unit decision making team of service unit director, hospital administrator, clinical director and director of nursing.

The stated objectives of the Program Management Training Initiative are:

1. Completes a needs assessment to clearly identify the training needs of each IHS manager based on the position occupied. Service Unit level managers will receive priority in assessment of needs.

2. Establish training based on the needs assessment date of IHS managers, which improve management skills and performance in critical areas such as supervision, personnel management, financial management and team management.

3. Establish a track for continuing management development based on a five year plan.

QUESTION: Are funds included in the '86 request to continue this activity?

ANSWER: The proposed reduction in Direct Operations will have some effect on the amount available.

Other Training

QUESTION: A couple years ago, Congress provided funds to train LPN's as RN's. Since the initiation of this training how many LPN's have completed the training? Have LPN's at any locations other then Tuba City been trained?

ANSWER: $320,000 was authorized to fund LPNs to become RN's. The funds were allocated as follows:

$120,000 was sent to Tuba City to pay for their LPNs to take college courses on a part time basis to prepare them for the challenge tests from the New York Regents' External Degree Program (University Without Walls).

$25,000 was sent to Mescalero Service Unit to fund 5 LPNs to complete the external degree. 2 of the 5 have dropped out of the program, 1 has resigned from IHS and 2 are continuing to take college courses from Alamogordo College in preparation for the challenge tests.

The remaining funds were allocated to the Nursing Education Center for Indians (NECI) to sponsor 9 LPNs. They attend either University or Community College, Schools of Nursing on a full time basis (at least 12 credits per semester) 2 graduated in May 1984, and passed state board tests and are currently employed as registered nurses in Pine Ridge, South Dakota. 1 will graduate in May 1985 and will be employed in Ada, Oklahoma.

Funds received in 1984 were allocated to NECI and 16 LPNs were funded (7 new students in addition to the ongoing students plus 2 replacements for those who graduated).

At present there are 16 LPN students enrolled in NECI, who are studying to become RNs. They are attending the following schools.

Lake Superior State College - Michigan	1
College of Santa Fe - New Mexico	2
University of Albuquerque - New Mexico	1
Mesa Community College - Arizona	1

Phoenix College - Arizona	2
Arizona State University - Arizona	1
Presentation College - South Dakota	1
Dakota Wesleyan University - South Dakota	2
Bacone College - Oklahoma	1
University of Tulsa - Oklahoma	1
Murray State University - Oklahoma	1
Western Carolina University - No. Carolina	1
East Central Oklahoma State - Oklahoma	1
	16

QUESTION: Are funds included in the '86 budget to continue this activity?

ANSWER: They will share in the proposed reduction.

Resource Deficiency

QUESTION: Between Fiscal Years 1981 and 1985, approximately $37 million will have been spent to improve health care delivery for those tribes with the greatest level of deficiency. According to a report prepared by IHS an additional $47 million would be required in Fiscal Year 1986 to raise all tribes to a level of 40 percent deficiency or less. Using IHS methodology, what would you estimate the resource deficiency to be of the rural United States as a whole?

ANSWER: The IHS is not aware of any available information that reflects the level of resource deficiency for the rural United States. Therefore, a comparison of the level of resource deficiency of the IHS to that of the rural United States could not be made.

QUESTION: If a RIF is required, what additional separation costs are involved?

ANSWER: Costs associated with a RIF include Lump Sum Leave, Change of Station, and Severance Pay. The total cost of a RIF cannot be determined until such time as it is carried out.

Eligibility of California Indians

QUESTION: Section 709 of the Senate-reported version of the Indian Health Care Act concerns the eligibility of California Indians for services. It would appear to make eligible certain Indians who are not members of federally recognizxed tribes. Is that accurate?

ANSWER: No. The Indian Health Service does not have a requirement that an individual must be a member of a federally recognized tribe to be eligible for services. To be eligible for services an individual must be a descendant of a federally recognized Indian and belong to an Indian community for which IHS has been funded to provide services. Only if there is a legal prohibition against serving such individuals e.g., where they have been terminated, would they be ineligible. This was the situation in California but for the most part this has been changed due to a number of court cases. The Department opposition to section 709 is not based on the eligibility of non-tribal members. On the contrary, the intent of the section is to put current IHS policy into statute for California Indians. Not only do we not believe this is necessary, but we are concerned that any future change in IHS regulation or policy would result in differing eligibility standards between California and the rest of the Nation.

QUESTION: Are there any other areas where IHS eligibility extends to individuals who are not members of federally recognized tribes?

ANSWER: IHS does not have a membership requirement for service eligibility.

QUESTION: What is the Department's position on the eligibility of California Indians?

ANSWER: California Indians are eligible for services on the same basis as Indians elsewhere. The current requirements do not discriminate against California Indians as they do not require tribal membership. We recognize that because of various circumstances in California Indian history (e.g., treaties not ratified, termination) establishing descendency from a federally recognized Indian is sometimes difficult. However, this is a matter of proof not a problem with the underlying policies. The same problem of proof would exist if section 709 were enacted.

Contract Facilities

QUESTION: With respect to the contracted hospitals and clinics, section 711 of the Senate reported authorization bill would require IHS to provide for the maintenance and repair of clinics owned or leased by tribes, for the costs of employee training, for cost of living increases and for any other expenses relating to the provision of health services on the same basis as such funds are provided to those facilities operated directly by IHS. Aren't any of these costs currently reflected in the contracts that IHS has?

ANSWER: Generally, since the level of resources included in a tribal contract is based on the level of resources being expended by IHS on the same activities, the type of costs included in tribal contracts will vary from contract to contract. However, since it is the policy of IHS to distribute mandatory cost increases on an equitable basis to all IHS funded programs whether operated directly by IHS or by tribes, cost of living increases are currently reflected in the contracts. In general, all expenses incurred by IHS in operating it's facilities are included in tribal contracts with the exception Maintenance and Repair. If a tribe is providing health services, through a contract with IHS, from a facility that is owned or leased by the tribe, IHS does not provide Maintenance and Repair, but if IHS is providing services by a facility owned by a tribe, Maintenance and Repair funds may be used.

QUESTION: Are employees at contracted facilities held to IHS salary scales? If not, why should the federal employee pay raises be passed on to them?

ANSWER: Depending upon whether these employees are direct hires by the tribe or remain IHS employees for the duration of the contract determines the salary of the employee. It is the view of IHS that since both IHS and Tribal Contractors are operating identical programs, the effects of inflation will be the same for both. As a result, the policy of IHS is to distribute mandatory cost increases equitably to both IHS direct and tribally operated programs. Since the resources received for Federal pay raises are considered as mandatory cost increases, IHS distributes them in accordance with the above stated policy. In keeping with IHS policy, pay act supplementals are considered the same as any other mandatory cost increase and is shared equally.

Reauthorization of P.L. 94-437

QUESTION: Section 712 of the Senate bill would require the Secretary to provide funds or personnel to replace any member of the National Health Service Corps who has been service at a health facility operated under contract by a tribe. In general, how do the staffing levels of contracted facilities compare with those facilities operated directly by IHS? In practice, how would you anticipate that this provision would be implemented?

ANSWER: In general, the staffing levels of these programs being operated by tribes through a contract with IHS is comparable to the staffing levels at the facilities being operated directly by IHS. Staffing levels are besed on the level of funds available for both IHS direct and tribally operated programs and the level of resources available for both vary in the same degree. In reference to the implementation of this provision, Section 712 would lock-in whatever services were provided by the NHSC personnel in a tribally contract program. Notwithstanding funding levels, medical priorities, or the desires of its contractor, subsection (2) would require the same type services be made available. Subsection (1) could, at times, be impossible to follow in situations where a NHSC assignee leaves on short notice. The Department opposes this provision.

Ft. Defiance, Arizona

QUESTION: $650,000 is requested for repair to the utility system at Ft. Defiance. Senate staff recently visited and was told that they (Ft. Defiance) have half of the required funds on hand for this project. Does this request represent other half ($650,000)?

ANSWER: No, the staff at Ft. Defiance meant that funds in the amount of $650,000 in the President's FY 1986 budget is only half the required amount needed for this project. The recent re-evaluation of this project reveals the following. To assure safe patient environments and provide dependable operation of Ft. Defiance Indian Hospital, general renovations and repairs is required to the 46-year old facility as follows:

Replace all water pipes, steam pipes, radiators, and correct asbestos problem.	$ 475,000
Upgrade incoming electric power, wiring, and lighting system to comply with code.	$ 175,000
Repair and re-enforce building structures, walls, and foundation.	$ 400,000
Renovate and upgrade HVAC throughout hospital.	$ 310,000

Extend and upgrade fire sprinkler system to provide 100% fire protection.	$ 200,000
Total	$1,560,000

Belcourt, North Dakota

QUESTION: Funds in the amount of $700,000 requested in the President's budget. Of this amount, how much will be used for quarter repairs?

ANSWER: Funds in the amount of $300,000 will be applied toward quarter repair projects.

Special Fund

QUESTION: Of the funds requested for Belcourt, a portion is to replace windows and doors on the quarters. In the '85 bill, Congress included a general provision providing for the establishment of accounts into which quarters allowances were to be placed for repair and maintenance of quarters. The impact of the action was to allow the agencies to keep all quarters collections, rather than just those paid by patroll deductions which was the prior case, and to keep the funds without fiscal year limitation rather than having unspect funds revert to the Treasury at the end of the fiscal year. Has IHS established such a fund?

ANSWER: The IHS currently collects funds for quarters and uses these collections for the maintenance and repair of the quarters. They are collected under the "Reimbursement" budget line. The IHS is currently establishing a separate Allowance Number under the Indian Health Facilities Appropriation to control more accurately the "Reimbursement" of these funds.

Colville Health Center

QUESTION: $177,000 is requested for repairs to Colville Health Center. When was that facility built?

ANSWER: The Colville Health Center was built in 1935.

QUESTION: The Colville, Washington project is rather small. How does IHS determine what work will be funded through Medicare/Medicaid collections, through the maintenance and repair account, or through this activity?

ANSWER: The determination of funding source for repairs in IHS facilities is:

Medicare/Medicaid - Those repair items specifically identified as deficiencies in relation to JCAH and/or Medicare standards.

Maintenance and Repair - Those repairs of a routine nature such as painting, replacing broken tile, and damaged walls.

Modernization and Repair - Those repairs that are major in scope. These include such items as new heating/air conditioning equipment, new electrical systems, and new floors.

Sacaton Hospital

QUESTION: In its initial report, the Senate Budget Committee adopted the Administration's recommendation with respect to funding for IHS. The only way we can even come close is to go along with the budget estimate for construction. Should we do this, there are some concerns that need to be addressed. For instance, additional funds may be needed to ensure that a weather-tight facility and secure structure is provided at Sacaton by the end of fiscal year 1986. If there is a need for more money for Sacaton, we would be willing to consider adding report language to allow for the reprogramming of funds from other projects that will not use all available funds during fiscal year 1986 with the understanding that those funds will be replenished when the project is ready to proceed.

ANSWER: No additional funds are needed for FY 1986 for Sacaton. The work will be accomplished within funds already provided, hence, there will be no need to reprogram funds.

Funding Requirements

QUESTION: There are currently 14 projects in some phase of planning, design or construction. Please take a hard look at all of these projects to determine which projects will require additional funding in fiscal year 1986 and which projects will have unobligated balances at the end of fiscal year 1986 which could be used to meet the requirements of the former.

ANSWER:

Project	Received ($000)	Additional Funds needed In FY 1986 ($000)	Unobligated Funds in FY 1987 ($000)
Ft. Thompson, SD	$ 3,449	$ 2,470 (Qtrs)	$ ---
Kyle, SD	3,209	2,375 (Qtrs)	---
Pine Ridge, SD	1,360	---	---
Rosebud, SD	2,254	16,466	---
		7,220 (Qtrs)	
Wagner, SD	360	100	---
Kanakanak, AK	15,977	5,600 (Qtrs)	2,500
Wolf Point, MT	3,654	---	---
Browning, MT	16,165	---	800
	6,600 (Qtrs)	---	---
Sacaton, AZ	6,099	12,446	---
Crownpoint, NM	17,734	---	---
Ft. Duchnese, UT	2,222	---	50

Huerfano, NM	3,304	---	---
Inscription House, AZ	2,220	---	---
Tsaile, AZ	3,856	---	400

QUESTION: For the record, please provide a list of estimated requirements for all the facilities for which some funds have been provided and the best available estimate of the year in which such funds would actually be used.

ANSWER:

Project	Appropriated Funds ($000)	Estimated Requirement ($000)	Fiscal Year
Pine Ridge, SD	$1,360	$12,950	1987
		10,630	1988
Wagner, SD	360	100	1986
		7,467	1987
Rosebud, SD	2,254	16,466	1986
		7,220 (Qtrs)	1987
Sacaton, AZ	6,099	12,446	1987
		1,300 (Qtrs)	1987
ANMC	2,000	3,500	1987
		60,550	1989
		40,360	1990
Wolf Point, MT		855 (Qtrs)	1987

QUESTION: Please provide a table for the fiscal years 1983 through 1985 for hospitals, clinics, quarters, and sanitation, showing balances carried forward, appropriations, and actual obligations (estimated for fiscal year 1985).

ANSWER: The attached table provides requested information.

FY1984

HOSPITALS: NEW & REPLACEMENT	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
Acoma - Laguna, N.M.	$0.00	$0.00	$0.00	($202.93)
Ada, OK	$0.00	$0.00	$0.00	($8,062.07)
Anchorage, AK	$30,370.00	$0.00	$0.00	$0.00
Anchorage, AK	$0.00	$2,000,000.00	$0.00	$0.00
Bethel, AK	$29,390.15	$0.00	$0.00	$0.00
Browning, Mt.	$3,200,000.00	$8,415,000.00	$0.00	$6,200,250.80
Cherokee, N.C.	$230,955.22	$0.00	($45,739.97) (e	($19,466.36)
Claremore, OK	$0.00	$0.00	$0.00	$0.00
Chinle, AZ	$920,554.62	$0.00	$0.00	$563,833.62
Chinle Solar, AZ	$199,630.03	$0.00	$0.00	$65,287.26
Crownpoint, N.M.	$979,556.33	$7,525,000.00	$0.00	$542,038.00
Kanakanak, AK	$521,765.06	$9,665,000.00	$0.00	$190,563.30
Pine Ridge, N.D.	$0.00	$1,360,000.00	$0.00	$0.00
Rosebud, S.D.	$1,243,000.00	$0.00	$0.00	$1,243,000.00
Sacaton, AZ	$1,191,297.80	$0.00	$0.00	$843,912.45
Santa Fe, N.M.	$0.00	$0.00	$0.00	$0.00
Tahlequah, OK	$63,277.20	$0.00	$0.00	$4,056.56
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Winslow, AZ	$0.00	$0.00	$0.00	$0.00
SUB-TOTAL HOSPITALS: NEW & REPLACEMENT	$8,629,796.41	$28,965,000.00	($45,739.97)	$9,625,210.63

FY1983

HOSPITALS: NEW & REPLACEMENT	BALANCE CARRY FORWARD OCTOBER 1, 1982	1983 APPROPRIATION	1983 REPROGRAMMED	1983 OBLIGATIONS
Acoma - Laguna, N.M.	$159.29	$0.00	($159.29) (a	$0.00
Ada, OK	$54,407.37	$0.00	$0.00	$54,407.37
Anchorage, AK	$30,370.00	$0.00	$0.00	$0.00
Anchorage, AK	$0.00	$0.00	$0.00	$0.00
Bethel, AK	$437,938.51	$0.00	$0.00	$408,548.36
Browning, Mt.	$0.00	$6,700,000.00	$0.00	$3,500,000.00
Cherokee, N.C.	$109,239.21	$0.00	($74,000.00) (b	($195,716.01)
Claremore, OK	$4,278.03	$0.00	($4,278.03) (a	$0.00
Chinle, AZ	$2,075,263.52	$0.00	$0.00	$1,154,708.90
Chinle Solar, AZ	$649,663.00	$0.00	$0.00	$450,032.97
Crownpoint, N.M.	$1,324,596.33	$0.00	$0.00	$345,040.00
Kanakanak, AK	$568,125.46	$0.00	$0.00	$46,360.40
Pine Ridge, N.D.	$0.00	$0.00	$0.00	$0.00
Rosebud, S.D.	$1,248,000.00	$0.00	$0.00	$5,000.00
Sacaton, AZ	$699,000.00	$0.00	$500,000.00 (a	$7,702.20
Santa Fe, N.M.	$2,153.54	$0.00	($2,758.84) (a	($605.30)
Tahlequah, OK	$522,618.96	$0.00	$0.00	$439,341.76
Whiteriver, AZ	$67,692.33	$0.00	($29,386.27) (c	$38,306.06
Winslow, AZ	$617.55	$0.00	($617.55) (a	$0.00
SUB-TOTAL HOSPITALS: NEW & REPLACEMENT	$7,794,123.10	$6,700,000.00	$388,800.02	$6,253,126.71

HOSPITALS: NEW & REPLACEMENT	FY1985 BALANCE CARRY FORWARD OCTOBER 1, 1984	1985 APPROPRIATION	1985 REPROGRAMMED	ESTIMATED 1985 OBLIGATIONS
Acoma - Laguna, N.M.	$202.93	$0.00	$0.00	$0.00
Ada, OK	$8,062.07	$0.00	$0.00	$0.00
Anchorage, AK	$30,370.00	$0.00	$0.00	$0.00
Anchorage, AK	$2,000,000.00	$0.00	$0.00	$350,000.00
Bethel, AK	$29,390.15	$0.00	$0.00	($55.45)
Browning, Mt.	$5,414,749.20	$0.00	$0.00	$1,348,898.54
Cherokee, N.C.	$204,681.61	$0.00	$0.00	$0.00
Claremore, OK	$0.00	$0.00	$0.00	$0.00
Chinle, AZ	$356,721.00	$0.00	$0.00	$356,582.78
Chinle Solar, AZ	$134,342.77	$0.00	$0.00	$47,425.60
Crownpoint, N.M.	$7,962,518.33	$8,883,000.00	$0.00	$11,784,319.00
Kanakanak, AK	$9,996,201.76	$5,054,000.00	$0.00	$13,645,621.20
Pine Ridge, N.D.	$1,360,000.00	$0.00	$0.00	$0.00
Rosebud, S.D.	$0.00	$1,006,000.00	$0.00	$1,006,000.00
Sacaton, AZ	$347,385.35	$4,900,000.00	$0.00	$45,593.00
Santa Fe, N.M.	$0.00	$0.00	$0.00	$0.00
Tahlequah, OK	$79,220.64	$0.00	$0.00	$5,100.80
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Winslow, AZ	$0.00	$0.00	$0.00	$0.00
SUB-TOTAL HOSPITALS: NEW & REPLACEMENT	$27,923,845.81	$19,843,000.00	$0.00	$28,589,485.47

HOSPITALS: NEW & REPLACEMENT	FY1986 ESTIMATED CARRY FORWARD OCTOBER 1, 1985
Acoma - Laguna, N.M.	$202.93
Ada, OK	$8,062.07
Anchorage, AK	$30,370.00
Anchorage, AK	$1,650,000.00
Bethel, AK	$29,445.60
Browning, Mt.	$4,065,850.66
Cherokee, N.C.	$204,681.61
Claremore, OK	$0.00
Chinle, AZ	$138.22
Chinle Solar, AZ	$86,917.17
Crownpoint, N.M.	$5,061,199.33
Kanakanak, AK	$1,404,580.56
Pine Ridge, N.D.	$1,360,000.00
Rosebud, S.D.	$0.00
Sacaton, AZ	$5,201,792.35
Santa Fe, N.M.	$0.00
Tahlequah, OK	$74,119.84
Whiteriver, AZ	$0.00
Winslow, AZ	$0.00
SUB-TOTAL HOSPITALS: NEW & REPLACEMENT	$19,177,360.34

FY1983

OUTPATIENT CARE FACILITIES	BALANCE CARRY 1983 REPROGRAMMED	1983 APPROPRIATION	1983 REPROGRAMMED	1983 OBLIGATIONS
Anadarko, OK	$2,993,865.59	$0.00	($12,613.73)(c,a	$2,676,820.44
Chemawa, OR	$198,628.09	$0.00	($176,017.15)	$0.00
Cibecue, AZ	$4,183.60	$0.00	($4,183.60)(a	$0.00
Ft. Duchesne, UT	$522,394.55	$0.00	$0.00	$232,736.25
Ft. Thompson, S.D.	$0.00	$0.00	$0.00	$0.00
Haskell, KN	$13,796.98	$0.00	($13,796.98)(a	$0.00
Huerfano, N.M.	$3,127,242.28	$0.00	$0.00	$2,484,848.17
Inscription House, AZ	$895,359.08	$0.00	$0.00	$611,240.09
Kyle, S.D.	$0.00	$0.00	$0.00	$0.00
Lummi, WA	$54,064.25	$0.00	($54,064.25)(a	$0.00
Nesplem, WA	$55,019.07	$0.00	$0.00	$0.00
Poplar, MT	$20,108.00	$0.00	($20,108.00)(a	$0.00
Tsaile, AZ	$3,672,591.00	$0.00	$0.00	$2,341,049.29
Wagner, S.D.	$0.00	$0.00	$0.00	$0.00
Wolf Point, MT	$0.00	$0.00	$0.00	$0.00
Yakima, WA	$0.00	$0.00	$0.00	$0.00
TOTAL OUTPATIENT CARE FACILITIES	$11,557,252.49	$0.00	($280,783.71)	$8,546,694.24

FY1984

OUTPATIENT CARE FACILITIES	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
Anadarko, OK	$317,045.15	$0.00	$0.00	$98,608.38
Chemawa, OR	$9,997.21	$0.00	($9,997.21)(e	$0.00
Cibecue, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Duchesne, UT	$289,658.30	$0.00	$0.00	$59,348.78
Ft. Thompson, S.D.	$0.00	$200,000.00	$0.00	$0.00
Haskell, KN	$0.00	$0.00	$0.00	$0.00
Huerfano, N.M.	$642,394.11	$0.00	$0.00	$533,931.51
Inscription House, AZ	$84,118.99	$0.00	$0.00	$72,415.69
Kyle, S.D.	$0.00	$200,000.00	$0.00	$0.00
Lummi, WA	$0.00	$0.00	$0.00	$0.00
Nesplem, WA	$55,019.07	$0.00	($35,000.00)(f	$0.00
Poplar, MT	$0.00	$0.00	$0.00	$0.00
Tsaile, AZ	$1,331,541.71	$0.00	$0.00	$857,263.58
Wagner, S.D.	$0.00	$360,000.00	$0.00	$0.00
Wolf Point, MT	$0.00	$200,000.00	$0.00	$0.00
Yakima, WA	$0.00	$0.00	$35,000.00 (f	$35,000.00
TOTAL OUTPATIENT CARE FACILITIES	$2,729,774.54	$960,000.00	($9,997.21)	$1,656,567.94

OUTPATIENT CARE FACILITIES	FY1985 BALANCE CARRY FORWARD OCTOBER 1, 1984	1985 REPROGRAMMED	1985 REPROGRAMMED	ESTIMATED 1985 OBLIGATIONS
Anadarko, OK	$218,436.77	$0.00	$0.00	$18,436.77
Chemawa, OR	$0.00	$0.00	$0.00	$0.00
Cibecue, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Duchesne, UT	$230,309.52	$0.00	$0.00	($50,223.79)
Ft. Thompson, S.D.	$200,000.00	$3,249,000.00	$0.00	$183,871.00
Haskell, KN	$0.00	$0.00	$0.00	$0.00
Huerfano, N.M.	$108,462.60	$0.00	$0.00	$52,694.20
Inscription House, AZ	$11,703.30	$0.00	$0.00	$165.34
Kyle, S.D.	$200,000.00	$3,009,000.00	$0.00	$200,000.00
Lummi, WA	$0.00	$0.00	$0.00	$0.00
Nesplem, WA	$20,019.07	$0.00	($20,000.00) (g	$0.00
Poplar, MT	$0.00	$0.00	$0.00	$0.00
Tsaile, AZ	$474,278.13	$0.00	$0.00	$17,407.88
Wagner, S.D.	$360,000.00	$0.00	$0.00	$0.00
Wolf Point, MT	$200,000.00	$3,454,000.00	$0.00	$4,515.00
Yakima, WA	$0.00	$0.00	$20,000.00 (g	$20,000.00
TOTAL OUTPATIENT CARE FACILITIES	$2,023,209.39	$9,712,000.00	$0.00	$446,866.40

OUTPATIENT CARE FACILITIES	FY1986 ESTIMATED CARRY FORWARD OCTOBER 1, 1985
Anadarko, OK	$200,000.00
Chemawa, OR	$0.00
Cibecue, AZ	$0.00
Ft. Duchesne, UT	$280,533.31
Ft. Thompson, S.D.	$3,265,129.00
Haskell, KN	$0.00
Huerfano, N.M.	$55,768.40
Inscription House, AZ	$11,537.96
Kyle, S.D.	$3,009,000.00
Lummi, WA	$0.00
Nesplem, WA	$19.07
Poplar, MT	$0.00
Tsaile, AZ	$456,870.25
Wagner, S.D.	$360,000.00
Wolf Point, MT	$3,649,485.00
Yakima, WA	$0.00
TOTAL OUTPATIENT CARE FACILITIES	$11,288,342.99

FY1983

PERSONNEL QUARTERS	BALANCE CARRY 1983 REPROGRAMMED	1983 APPROPRIATION	1983 REPROGRAMMED	1983 OBLIGATIONS
Acomita, N.M.	$101,572.29	$0.00	($101,572.29) (a	$0.00
Bethel, AK	$941.16	$0.00	($941.16) (a	($108.80)
Browning, MT	$0.00	$0.00	$0.00	$0.00
Chinle, AZ	$235,578.78	$0.00	$0.00	$192,083.60
Chinle - Inscription House, AZ	$41,189.00	$14,000,000.00	$0.00	$11,376,155.00
Cibecue, AZ	$10,361.73	$0.00	($10,361.73) (a	$0.00
Crownpoint, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Defiance, AZ	$8.71	$0.00	($8.71) (a	$0.00
Ft. Duchesne, UT	$0.00	$0.00	$0.00	$0.00
Huerfano, N.M.	$0.00	$0.00	$0.00	$0.00
Kayenta, AZ	$10,206.35	$0.00	($10,206.35) (a	$0.00
Lame Deer, MT	$7,914.08	$0.00	($7,914.08) (a	$0.00
Lodge Grass, MT	$650,000.00	$0.00	$74,000.00 (b	$53,460.00
Owyhee, NV	$43,210.08	$0.00	($43,210.08) (a	$0.00
Tsaile, AZ	$0.00	$0.00	$0.00	$0.00
Tuba City, AZ	$460.38	$0.00	($460.38) (a	$0.00
Tuba City, AZ	$12,192.14	$0.00	($12,192.14) (a	$0.00
Whiteriver, AZ	$1,420.59	$0.00	($1,420.59)	$0.00
Whiteriver, AZ	$0.00	$0.00	$42,000.00	$0.00
TOTAL PERSONNEL QUARTERS	$1,115,055.29	$14,000,000.00	($72,287.51)	$11,621,589.80

FY1984

PERSONNEL QUARTERS	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
Acomita, N.M.	$0.00	$0.00	$0.00	$0.00
Bethel, AK	$108.80	$0.00	$0.00	$0.00
Browning, MT	$0.00	$2,470,000.00	$0.00	$0.00
Chinle, AZ	$43,495.18	$0.00	$0.00	$20,991.00
Chinle - Inscription House, AZ	$2,665,034.00	$0.00	($1,841,000.00) (d	$823,581.99
Cibecue, AZ	$0.00	$0.00	$0.00	$0.00
Crownpoint, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Defiance, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Duchesne, UT	$0.00	$0.00	$974,000.00 (d	$54,121.00
Huerfano, N.M.	$0.00	$0.00	$867,000.00 (d	$69,625.00
Kayenta, AZ	$0.00	$0.00	$0.00	$0.00
Lame Deer, MT	$0.00	$0.00	$0.00	$0.00
Lodge Grass, MT	$670,540.00	$0.00	$0.00	$670,540.00
Owyhee, NV	$0.00	$0.00	$0.00	$0.00
Tsaile, AZ	$0.00	$0.00	$0.00	$0.00
Tuba City, AZ	$0.00	$0.00	$0.00	$0.00
Tuba City, AZ	$0.00	$0.00	$0.00	$0.00
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Whiteriver, AZ	$42,000.00	$0.00	$0.00	$38,168.62
TOTAL PERSONNEL QUARTERS	$3,421,177.98	$2,470,000.00	$0.00	$1,677,027.61

PERSONNEL QUARTERS	FY1985 BALANCE CARRY FORWARD OCTOBER 1, 1984	1985 REPROGRAMMED	1985 REPROGRAMMED	ESTIMATED 1985 OBLIGATIONS
Acomita, N.M.	$0.00	$0.00	$0.00	$0.00
Bethel, AK	$108.80	$0.00	$0.00	$0.00
Browning, MT	$2,470,000.00	$0.00	$0.00	$2,444,000.00
Chinle, AZ	$22,504.18	$0.00	$0.00	$0.00
Chinle - Inscription House, AZ	$452.01	$0.00	$0.00	$0.00
Cibecue, AZ	$0.00	$0.00	$0.00	$0.00
Crownpoint, AZ	$0.00	$3,352,000.00	$0.00	$300,000.00
Ft. Defiance, AZ	$0.00	$0.00	$0.00	$0.00
Ft. Duchesne, UT	$919,879.00	$0.00	$0.00	$838,875.00
Huerfano, N.M.	$797,375.00	$0.00	$0.00	$779,572.00
Kayenta, AZ	$0.00	$0.00	$0.00	$0.00
Lame Deer, MT	$0.00	$0.00	$0.00	$0.00
Lodge Grass, MT	$0.00	$0.00	$0.00	$0.00
Owyhee, NV	$0.00	$0.00	$0.00	$0.00
Tsaile, AZ	$0.00	$2,141,000.00	$0.00	$300,000.00
Tuba City, AZ	$0.00	$0.00	$0.00	$0.00
Tuba City, AZ	$0.00	$0.00	$0.00	$0.00
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Whiteriver, AZ	$3,831.38	$0.00	$0.00	$2,742.60
TOTAL PERSONNEL QUARTERS	$4,214,150.37	$5,493,000.00	$0.00	$4,665,189.60

PERSONNEL QUARTERS	FY1986 ESTIMATED CARRY FORWARD OCTOBER 1, 1985
Acomita, N.M.	$0.00
Bethel, AK	$108.80
Browning, MT	$26,000.00
Chinle, AZ	$22,504.18
Chinle - Inscription House, AZ	$452.01
Cibecue, AZ	$0.00
Crownpoint, AZ	$3,052,000.00
Ft. Defiance, AZ	$0.00
Ft. Duchesne, UT	$81,004.00
Huerfano, N.M.	$17,803.00
Kayenta, AZ	$0.00
Lame Deer, MT	$0.00
Lodge Grass, MT	$0.00
Owyhee, NV	$0.00
Tsaile, AZ	$1,841,000.00
Tuba City, AZ	$0.00
Tuba City, AZ	$0.00
Whiteriver, AZ	$0.00
Whiteriver, AZ	$1,088.78
TOTAL PERSONNEL QUARTERS	$5,041,960.77

		FY1983		
	BALANCE CARRY 1983 REPROGRAMMED	1983 APPROPRIATION	1983 REPROGRAMMED	1983 OBLIGATIONS
HOSPITALS: MODERNIZATION & REPAIR				
Ada, OK	$0.00	$0.00	$0.00	$0.00
Albuquerque, N.M.	$21,624.49	$0.00	$0.00	$17,428.20
Alternate Fuel	$52,315.56	$0.00	$0.00	$40,705.48
Anchorage Jobs Bill	$0.00	$2,151,000.00	$0.00	$42,674.00
Barrow, AK Jobs Bill	$0.00	$536,000.00	$0.00	$11,800.00
Browning, Mt.	$344,752.68	$0.00	$0.00	$67,364.78
Ft. Yates, N.D.	$1,289.53	$0.00	($1,289.53) (a	$0.00
Gallup, N.M.	$14,619.09	$0.00	($14,619.09) (a	$0.00
Gallup, N.M.	$0.00	$0.00	$0.00	$0.00
Kanakanak, AK	$19,500.00	$0.00	($19,500.00) (a	$0.00
Keams Canyon, AZ	$0.00	$0.00	$0.00	$0.00
Kotzebue, AK Job Bill	$0.00	$585,000.00	$0.00	$10,998.00
Lawton, OK	$0.00	$0.00	$0.00	$0.00
Mt. Edgecumbe, AK	$320.18	$0.00	($320.18) (a	$0.00
Mt. Edgecumbe Jobs Bill	$0.00	$672,000.00	$0.00	$0.00
Phoenix, AZ	$0.00	$0.00	$0.00	$0.00
Sells, AZ	$365,993.82	$0.00	$0.00	$79,900.00
Talihina, OK	$0.00	$0.00	$0.00	$0.00
Technical Energy Studies	$146,928.59	$0.00	$0.00	$7,671.33
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Winnebago, NB	$106,267.54	$0.00	$0.00	$104,536.73
SUB-TOTAL HOSPITALS: MODERNIZATION & REPAIR	$1,073,611.48	$3,944,000.00	($35,728.80)	$383,078.52
TOTAL HOSPITALS	$8,867,734.58	$10,644,000.00	$353,071.22	$6,636,205.23

		FY1984		
	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
HOSPITALS: MODERNIZATION & REPAIR				
Ada, OK	$0.00	$0.00	$0.00	$0.00
Albuquerque, N.M.	$4,196.29	$0.00	$0.00	$0.00
Alternate Fuel	$11,610.08	$0.00	$0.00	$2,280.89
Anchorage Jobs Bill	$2,108,326.00	$0.00	$164,000.00 (i	$2,183,355.25
Barrow, AK Jobs Bill	$524,200.00	$0.00	$312,000.00 (i	$56,414.09
Browning, Mt.	$277,387.90	$0.00	$0.00	$189,139.00
Ft. Yates, N.D.	$0.00	$0.00	$0.00	$0.00
Gallup, N.M.	$0.00	$0.00	$0.00	$0.00
Gallup, N.M.	$0.00	$0.00	$0.00	$0.00
Kanakanak, AK	$0.00	$0.00	$0.00	$0.00
Keams Canyon, AZ	$0.00	$0.00	$0.00	$0.00
Kotzebue, AK Job Bill	$574,002.00	$0.00	($585,000.00) (i	($10,998.00)
Lawton, OK	$0.00	$200,000.00	$0.00	$0.00
Mt. Edgecumbe, AK	$0.00	$0.00	$0.00	$0.00
Mt. Edgecumbe Jobs Bill	$672,000.00	$0.00	$109,000.00 (i	$779,813.29
Phoenix, AZ	$0.00	$0.00	$0.00	$0.00
Sells, AZ	$286,093.82	$0.00	$55,737.18	$329,352.32
Talihina, OK	$0.00	$0.00	$0.00	$0.00
Technical Energy Studies	$139,257.26	$0.00	$0.00	$0.00

FY1984

HOSPITALS: MODERNIZATION & REPAIR	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
Whiteriver, AZ	$0.00	$0.00	$0.00	$0.00
Winnebago, NB	$1,730.81	$0.00	$0.00	$1,730.81
SUB-TOTAL HOSPITALS: MODERNIZATION & REPAIR	$4,598,804.16	$200,000.00	$55,737.18	$3,531,087.65
TOTAL HOSPITALS	$13,228,600.57	$29,165,000.00	$9,997.21	$13,156,298.28

FY1985

HOSPITALS: MODERNIZATION & REPAIR	BALANCE CARRY FORWARD OCTOBER 1, 1984	1985 APPROPRIATION	1985 REPROGRAMMED	ESTIMATED 1985 OBLIGATIONS
Ada, OK	$0.00	$0.00	$28,000.00 (h	$143,000.00
Albuquerque, N.M.	$4,196.29	$115,000.00	$0.00	$0.00
Alternate Fuel	$9,329.19	$0.00	$0.00	$0.00
Anchorage Jobs Bill	$88,970.75	$0.00	$0.00	$88,970.75
Barrow, AK Jobs Bill	$779,785.91	$0.00	$0.00	$779,785.91
Browning, Mt.	$88,248.90	$0.00	$0.00	$48,248.90
Ft. Yates, N.D.	$0.00	$0.00	$0.00	$0.00
Gallup, N.M.	$0.00	$0.00	$0.00	$0.00
Gallup, N.M.	$0.00	$784,000.00	$0.00	$0.00
Kanakanak, AK	$0.00	$0.00	$0.00	$0.00
Keams Canyon, AZ	$0.00	$314,000.00	$0.00	$314,000.00
Kotzebue, AK Job Bill	$0.00	$0.00	$0.00	$0.00
Lawton, OK	$200,000.00	$0.00	$0.00	$200,000.00
Mt. Edgecumbe, AK	$0.00	$0.00	$0.00	$0.00
Mt. Edgecumbe Jobs Bill	$1,186.71	$0.00	$0.00	$1,186.71
Phoenix, AZ	$0.00	$264,000.00	$0.00	$264,000.00
Sells, AZ	$12,478.68	$0.00	$0.00	$12,478.68
Talihina, OK	$0.00	$218,000.00	($28,000.00) (h	$190,000.00
Technical Energy Studies	$139,257.26	$0.00	$0.00	$27,887.00
Whiteriver, AZ	$0.00	$391,000.00	$0.00	$391,000.00
Winnebago, NB	$0.00		$0.00	
SUB-TOTAL HOSPITALS: MODERNIZATION & REPAIR	$1,323,453.69	$2,086,000.00	$0.00	$2,460,557.95
TOTAL HOSPITALS	$29,247,299.50	$21,929,000.00	$0.00	$31,050,043.42

HOSPITALS: MODERNIZATION & REPAIR	FY1986 ESTIMATED CARRY FORWARD OCTOBER 1, 1985
Ada, OK	$0.00
Albuquerque, N.M.	$4,196.29
Alternate Fuel	$9,329.19
Anchorage Jobs Bill	$0.00
Barrow, AK Jobs Bill	$0.00
Browning, Mt.	$40,000.00
Ft. Yates, N.D.	$0.00
Gallup, N.M.	$0.00
Gallup, N.M.	$784,000.00
Kanakanak, AK	$0.00
Keams Canyon, AZ	$0.00
Kotzebue, AK Job Bill	$0.00
Lawton, OK	$0.00
Mt. Edgecumbe, AK	$0.00
Mt. Edgecumbe Jobs Bill	$0.00
Phoenix, AZ	$0.00
Sells, AZ	$0.00
Talihina, OK	$0.00
Technical Energy Studies	$111,370.26
Whiteriver, AZ	$0.00
Winnebago, NB	$0.00
SUB-TOTAL HOSPITALS: MODERNIZATION & REPAIR	$948,895.74
TOTAL HOSPITALS	$20,126,256.08

	FY1983			
	BALANCE CARRY 1983 REPROGRAMMED	1983 APPROPRIATION	1983 REPROGRAMMED	1983 OBLIGATIONS
Sanitation Facilties	$851,770.89	$49,056,000.00	$0.00	$49,671,696.95

	FY1984			
	BALANCE CARRY FORWARD OCTOBER 1, 1983	1984 APPROPRIATION	1984 REPROGRAMMED	1984 OBLIGATIONS
Sanitation Facilties	$236,073.94	$21,000,000.00	$0.00	$20,508,993.39

	FY1985			
	BALANCE CARRY FORWARD OCTOBER 1, 1984	1985 REPROGRAMMED	1985 REPROGRAMMED	ESTIMATED 1985 OBLIGATIONS
Sanitation Facilties	$647,080.55	$24,500,000.00	$0.00	$24,647,080.55

	FY1986 ESTIMATED CARRY FORWARD OCTOBER 1, 1985
Sanitation Facilities	$500,000.00

Reprogrammed:

a) $500,000 to Sacaton Hospital as directed by Conference Report 97-978, dated 12/17/83 (page 39).
b) $74,000 from Cherokee Hospital to Lodge Grass Personnel Quarters.
c) $29,386.27 from Whiteriver Hospital and $12,613.73 from Chemawa Clinic to Whiteriver Personnel Quarters.
d) $1,841,000 from Chinle - Inscription House Personnel Quarters to Ft. Duchesne Personnel Quarters ($974,000) and Huerfano Personnel Quarters ($867,000) as directed by Conference Report 98-399, Amendment No. 125 (page 45).
e) $45,739.97 from Cherokee Hospital and $9,997.21 from Chemawa Clinic to Sells Hospital.
f) $35,000 from Nespelem Clinic to Yakima Clinic.
g) $20,000 from Nespelem Clinic to Yakima Clinic.
h) $28,000 from Talihina Hospital to Ada Hospital.
i) Adjustments of projects within Jobs Bill.

QUESTIONS SUBMITTED BY SENATOR PAUL LAXALT

Direct Operations Budget

QUESTION: Will you please submit a breakdown of the Direct Operations budget estimate for fiscal year 1986 as described on IH-16 of the justification?

ANSWER: The budget estimate for fiscal year 1986 of $56,778,000 for Direct Operations is for the cost of personnel (1,275 FTE's) and other items such as travel, communications, and supplies for the operation of Headquarters and Area/Program Offices.

QUESTION: How does this Operations budget differ from the "Administration," "Facility and Grounds Maintenance" and "CHS Management" components of the Clinical Services estimate, as described in IH-71?

ANSWER: The Direct Operations budget is only for the operation of Headquarters and Area/Program Offices. The various costs as described on IH-71 are those directly at the service unit, i.e., a hospital or a clinic. The descriptions of these types of costs are attached. (Attachment 1)

QUESTION: How much, if any, do the Direct Operations and Clinical Services administration budgets overlap, especially at Albuquerque "Headquarters West" and the Albuquerque Area Office?

ANSWER: The Clinical Services administration budgets, for the most part, do not overlap. There are, however, extensions of some individual offices such as personnel and supplies. This is for more effective management at a service unit.

QUESTION: Is it possible to effect savings in either or both budgets by providing for a combined budget?

ANSWER: Not really. Some of the Clinical Services administration costs are due to a breakout of the total cost of a doctor and/or a nurse. Part of their time is spent performing administrative functions and as such are charged properly.

Clinical Services Dollars

QUESTION: According to the 1986 Indian Health Budget Justification (pages 69-70), IHS this year is spending $64 million of Clinical Services dollars for "Administration, Facility and Ground Maintenance, and CHS Management." Congress appropriated $59 million for Program Management ("Direct Operations") for 1985. Does not the use of Clinical Services dollars for administrative purposes contradict the stated IHS policy of focusing "scarce federal resources on maintaining key inpatient and outpatient medical care services"?

ANSWER: As previously provided, the cost for Administration is a necessary overhead for the effective management of a service unit. Facility and Ground Maintenance costs are necessary to keep the physical plant (hospital and/or clinic) operating at peak efficiency. CHS Management provides the immediate liaison between IHS and private contractors that provide medical care for Indians outside IHS facilities. If these types of services were not available there would be no facilities or JCAH accreditation and, thusly, no health care services being provided.

QUESTION: How does the Indian Health Service justify the spending of Clinical Service dollars at Headquarters East ($21.2 million) and Albuquerque Headquarters West ($2.9 million)?

ANSWER: The funds obligated at Headquarters East are for the centralized billing of services that benefit all operations of IHS. The funds obligated at Albuquerque Headquarters West are for the operation of programs centralized at that location. Listed below are examples of these costs:

	($000)	
	Headquarters East	Headquarters West
Accident Compensation (BEC)	$2,500	$---
GSA Space Rental (SLUC)	4,500	---
Federal Telecommunications Service (IHS Wide)	2,800	---
Penalty Mail	2,100	---
Physician Recruitment	1,400	---
Printing and Reproduction (GPO billings)	1,400	---
Inter-Agency Agreements	510	---
HRSA Service and Supply Fund		
Umbrella Accounting System (DHHS)	1,323	---
Commissioned Officers Personnel	1,100	---
Fiscal Services (HRSA)	500	---
Unemployment Compensation	2,000	---
Evaluation	800	---
Miscellaneous	267	167
Indian Childrens' Village	---	596
Nurses' Education Center	---	382
Food Services Training	---	240
Model Diabetes	---	110
Dental	---	527
Mental Health	---	878

QUESTION: Please provide the Committee with an accounting of how Clinical Services dollars are allocated for Area Office functions in the Phoenix Area.

ANSWER: The Phoenix Area does not obligate any Clinical Services dollars for Area Office functions. These functions are paid from the Direct Operations sub-sub activity only.

Office of Research and Development

QUESTION: The IHS has an Office of Research and Development located in Tucson, Arizona. "Program Office" responsibilities have also been assigned to ORD because two tribes are located in Southern Arizona. The total allocation for ORD/Tucson Area for FY 1984 is $16,964,800. Program Management costs for ORD/Tucson are $2.2 million. This is an average of $1.1 million in administrative costs per tribe. How does IHS justify this expenditure? What are the costs for the ORD functions? What are the costs for the Tucson Program Office functions? How are staff allocated among these two functions?

ANSWER: The attached chart will provide the required information.

QUESTION: According to the Director of the "Division of Health Systems Development," the Tucson office is in transition to an Area Office. How does IHS justify an Area Office for two tribes?

ANSWER: The Tucson/ORD office is not becoming an Area Office. It is in a transition to an Associate Office under the Director, IHS.

	Number of Staff	Amount
Office of the Director (Tucson) As staff resource for the Service Director; (1) develops and demonstrates new methods and techniques for Indian community participation in management of their health program; (2) provides consultation and technical assistance to all operating and management levels of the Indian Health Service and Indian tribes in the evaluation, design, and implementation of health management and Services delivery systems; (3) coordinates health research development activities within the Service directed to the improvement of health of the Indian people; and (4) provides executive direction for Tucson Area Service Units.	8	$450,000
Environmental Health Branch (1) Plans, implements, directs, and evaluates the ORD environmental health program; (2) Coordinates activities designed to promote, provide, improve, and maintain a safe and healthful environment in IHS facilities and INdian communities; (3) Constructs, improves, extends or otherwise provides essential sanitation facilities in Indian homes and communities; (4) provides environmental health input/requirements to research, development and training activities or ORD; and (5) Provides facilities management and maintenance and repair for ORD.	2	$120,000
Tribal Management Support Branch (1) Provides necessary services to tribes, tribal organizations, and IHS through through technical consultation and assistance, systems development, and training in management, administration of health programs and institutions through (a) Administrative Management Training program (AMT); (b) Specialized Training in Administration for Registered Technicians (START); (c) Tribal Resource and Assistance Information Systems (TRAIS); (d) Project Officer Training and Tribal Contract Support; (e) Field Administrative Support; (f) Tribal Education Program Development; and (g) Related program service and development activities.	10	$520,000

	Number of Staff	Amount
Planning Methodologies Branch (1) Develops and assists in implementing planning mechanisms and methodologies to assure that the objectives of ORD are integrated and met in a timely and coherent fashion; and (2) Identifies successful innovations in IHS operations, and other Health Delivery Systems and coordinates their implementation within ORD objectives. Also provides planning functions for Tucson service units.	2	$120,000
Community Development Branch (1) In accordance with ORD objectives and plans, identifies requirements for programs, processes and training to facilitate the transition to Indian management and direction of reservation health programs; (2) Provides support to the Tucson service units.		

Indirect Costs

QUESTION: How did IHS arrive at the $5 million and 85 FTE figures?

ANSWER: Although it is projected that the total indirect cost requirements are higher than $5 million, it was felt that this amount was the maximum that could be utilized from the clinical services budget category and would provide support for new starts.

The 85 FTEs was the estimated amount of FTEs that would be eliminated within the IHS by the P.L. 93-638 contracts whose indirect costs would be supported by the $5 million.

QUESTION: What is the actual level of indirect costs needed in FY 1985 P.L. 93-638 contracts? How are these costs currently met?

ANSWER: The FY 1985 data on indirect costs is not available at this time, however, it is estimated to be in excess of $15 million based on the FY 1984 level of $15,668,302.

There is no specified amount appropriated by Congress for the indirect costs incurred by a tribe when taking over a health program under P.L. 93-638, The Indian Self-Determination and Education Assistance Act. Therefore, when a tribe contracts a program under P.L. 93-638, both direct and indirect costs are funded from the total amount of funds identified to support the contract.

Designation as direct or indirect is an accounting function and does not address the real issue, which is, that the contractors have certain expenses which the Federal government does not have. For example, the government is a self-insurer while the contractor must purchase insurance such as malpractice insurance. Recruitment costs, mailing costs, and severance pay are other examples of costs which the contractor must absorb.

QUESTION: Would it not be more appropriate to take these indirect costs out of Program Management ("Direct Operations") dollars?

ANSWER: The $5 million is proposed to be funded from the Hospitals and Health Clinics activity since the majority of tribal contracts are for hospital and clinical activities and their current indirect costs are, to the extent funds are available, funded from this activity.

QUESTION: How does IHS handle indirect costs with non-tribal government contractors and grantees, such as private firms and universities?

ANSWER: Non-profit organizations such as universities must have more than one government contract to have a negotiated indirect cost rate. If they do have a negotiated indirect cost rate and if it is included in their proposal, the Federal government will pay the negotiated rate. If it is not included in the proposal, the contract will usually have a provision which says no indirect costs will be paid.

Computers

QUESTION: What are the current computer functions at the Albuquerque Headquarters West and the Tucson Office of Research and Development?

ANSWER: The current computer functions at the Albuquerque Headquarters West (IHS Data Processing Services Center) are the centralized processing of data from numerous health discipline systems and administrative systems. Examples of the various systems are; Ambulatory Patient Care (APC), Patient Care Information System (PCIS), Dental, Community Health Nursing, Health Education, Mental Health/Social Services, Office of Environmental Health, Community Health Representatives, Contract Health Service, Tribal Resource and Assistance Information System (TRAIS), Supply, Real Property, Finance, etc. The current computer functions at Tucson Office of Research and Development center around systems to support the Sells Service Unit health care delivery system; pharmacy, laboratory, PCIS, contract health and rewriting the software for the PCIS into the Massachusetts General Hospital Utility Multi-Programming System (MUMPS) operating system/programming language.

QUESTION: What is the relationship between RPMS, Headquarters West, and ORD?

ANSWER: RPMS will establish a capability for integrating all IHS data basis into a single information resource and distribute these data bases to all organizational levels within the IHS. Headquarters West is involved with the RPMS because they have the greatest concentration of data processing personnel required for the conversion and implementation. The ORD is involved because they are a major shared development center responsible for converting the PCIS and integrating other patient care and administrative systems into the RPMS.

QUESTION: Please provide the Committee with an accounting of ongoing costs of RPMS, including staffing, training, software development and purchasing, facilities renovation, hardware costs, repairs and maintenance?

ANSWER: The following table provides an estimate of the one time and ongoing costs of RPMS.

HARDWARE PROCUREMENT	
Equipment of host RPMS in 193 facilities	$ 4,500,000
HARDWARE MAINTENANCE CONTRACTS	
Estimated at 10% of total equipment costs (recurring)	$ 500,000
SOFTWARE DEVELOPMENT COSTS	
Estimate 15 man years of effort @ $45,000 (recurring)	$ 675,000
TELECOMMUNICATIONS COSTS	
Leased lines and data transmission costs (recurring)	$ 1,000,000
ADDITIONAL PERSONNEL	
Estimated 75 new FTE Positions @ $30,000 (recurring)	$ 2,250,000
TRAINING	
Estimated $2,500/facility (193)	$ 500,000
FACILITIES RENOVATION	
Estimated $25,000/Class I&II facilities (50)	$ 1,250,000
TOTAL	$10,675,000

QUESTION: Please provide the Committee with a copy of the IHS plan for ADP development in the Phoenix Area, including tribal participation procedures.

ANSWER: The FY-85 Information Systems plan for the Phoenix Area is attached. With regard to the tribal participation procedures, please note the IHS Director's FY-85 objectives number four and five on page 2 of the plan. In addition, the Phoenix area has developed specific objectives for the next five years. The first objective related to community/tribal coordination and is in two parts: (a) Establish an information system coordinator at each Service Unit and at each interested tribe to facilitate coordination of Area, Service Unit, facility and tribal information system planning efforts; and (b) Encourage the development of expertise and interest at each Service Unit and tribe for management of local information systems and the production and use of systems, programs and databases for local use.

QUESTION: Please describe the Ambulatory Patient Care (APC) data system, from the point of filling out the APC forms, to the retrievel of APC data. How can tribal clinics obtain print-outs from the data they submit for the system? How does IHS use the APC data?

ANSWER: The Ambulatory Patient Care (APC) system is used to manage outpatient medical services in Indian Health Service (IHS) facilities (hospital, health center, school health center, health station, and satellite field locations). The APC system is also used, on an optional basis, in some tribally operated facilities.

One APC form is completed per outpatient visit. The health care provider typically completes the form in conjunction with the health records personnel. Patient-specific data are recorded including age, sex, community of residence, type of provider, and clinical impression (diagnosis).

Key-taping of the forms is the responsibility of the IHS Area Office, and may be accomplished in-house or through a contract. The completed data tapes are transmit, on a weekly basis, to the IHS computer processing center in Albuquerque. The APC data from all 12 IHS Area Offices is batch-processed on a monthly basis in Albuquerque. The data are edited, files are updated, and certain computer reports are generated.

Routine APC computer reports are generated at Albuquerque on a monthly/quarterly/annual basis. There are other reports, called "On-Request Reports," that are generated upon request. The APC reports provide information pertaining to the number of outpatient visits at IHS facilities and some tribally operated facilities by various patient characteristics, (age, sex, clinical impression, community of residents, etc.) The computer reports are mailed to IHS Headquarters and to the Area Offices. The Area Offices are responsible for distributing the reports within the Area, i.e., to the service units, facilities, and to participating tribal contractors.

APC data are used for various purposes in IHS. The APC data are used by the health care providers for patient management purposes, e.g., to review the history of a patient's health problems to determine trends and relationships between separately reported problems. APC data and other health status data are used by IHS managers at all levels to determine program direction, emphasis, and priorities. For example, the Indian data show significant problems in alcoholism, accidents and diabetes mellitus. The data are used to evaluate the effectiveness of IHS programs, e.g., outpatient visits by cause are analyzed to determine the effects of a special diabetes treatment program. APC workload counts are also used as the basis of forecasts of outpatient workload for budget and facility planning purposes.

Resource Allocation

QUESTION: According to the budget justification (pages 47-48), IHS is continuing to refine the resource allocation formula. Please provide the committee with a description of the resource allocation formula. What data does IHS use for the resource allocation formula? How is the data developed and verified?

ANSWER: The IHS concept for a resource allocation formula has two primary objectives each with a separate approach.

Objective 1: Objective 1 focuses upon identification and distribution of resources necessary for provision of health care services at the levels currently provided by IHS. The formula for Objective 1 is based upon the amount of health care services (primarily impatient days and ambulatory care encounters) actually provided in the previous year. Workload data are converted into staff requirements, Contract Health Care (CHC) requirements and other support costs using standardized ratios embodied in the Resource Requirements Methodology (RRM). All requirements are converted into dollars and aggregated into totals for IHS Areas. Available resources, both appropriated and collections (medicaid and medicare), are subtracted from each Area's requirements to determine the deficiency. Funds for allocation are then allocated to each Area according to each Area's pro rata share of the total IHS deficiency. Areas are in turn responsible for an appropriate allocation within the Area.

Objective 1 is designed to reflect the following concerns:

a. Existing level of services currently provided by IHS
b. Actual IHS user population
c. Standardized requirements based upon actual workload
d. Allocation weighted to level of deficiency

Objective 2: Objective 2 focuses upon identification and distribution of resources necessary for providing health care services to Indians who are not currently receiving IHS services - additional services beyond those currently provided by IHS. The formula for Objective 2 is based upon health care utilization rates for the population eligible for IHS services. If the utilization rate for health service falls below the established norm (norms based upon U.S. totals are proposed), the workload difference required to raise the utilization rate to the norm is calculated. The workload is then converted to staff requirements, CHC requirements, and other support cases using the standardized ratios in RRM. Requirements are converted to dollars and aggregated by IHS Areas. Funds for allocation are then allocated to each IHS Area according to each Area's pro rata share of the total IHS deficiency. Areas are in turn responsible for appropriate allocations within the Area.

Objective 2 is designed to reflect the following concerns

a. Services not now provided by IHS
b. Eligible population including the unserved and under served
c. Standardized requirements based upon needed service
d. Allocation weighted to levels of deficiency

Three types of data are used for these calculations - population, workload, current funding. These data have common definitions and are taken from several sources.

Population - U.S. Census Population Estimates
Ambulatory Workload - IHS Ambulatory Patient Care Data System
Inpatient Workload - IHS Inpatient Data System
Workload - Tribal Health Delivery Data Systems
Funding - IHS Financial Accounting System
Collections - IHS Medicare/Medicaid Collection System

Data are verified either by the IHS Program Statistics Branch or the Resources Management Branch for consistency, completeness and reliability.

QUESTION: Please provide the Committee with the results of the resource allocation formula distribution of Clinical Services dollars in the Phoenix Area in FY 1985.

ANSWER: In FY 1985, the IHS set aside $5 million as a special fund to continue efforts towards achieving equal access to health services. The distribution of these funds was based on the results of the current application of the Resource Requirement Methodology. The following reflects the distribution of these funds (Hospitals and health clinics) by service unit for the Phoenix Area:

Service Unit	Amount
Keams Canyon	$ 22,000
Unitah and Ouray	122,000
Schurz	470,000
Total	$614,000

QUESTION: The budget justification indicates that IHS experienced a slight decrease in inpatient and outpatient visits in FY 1984. However, tribal clinics in Nevada are seeing more patients every month. Please provide the data for the Schurz Service Unit to the Committee on relative numbers of visits for 1983 and 1984.

ANSWER: The attached table summarizes inpatient and outpatient workload in IHS and Tribal facilities for the Schurz Serivce Unit for 1983 and 1984.

Schurz Service Unit
Workload for IHS and Tribally Operated Facilities
Fiscal Years 1984 and 1983

	FY 1984	FY 1983
Inpatient Admissions	249	251
Total Outpatient Visits	25,855	23,122
IHS Facilities	14,534	15,298
Tribal Facilities	11,321	7,824

Personnel

QUESTION: At the April 1-4 meeting at the Office of Research and Development in Tucson, Dr. Rhoades announced a plan to transfer IHS personnel, including doctors, to the Aberdeen Area. Please provide the Committee with details of this plan.

ANSWER: IHS Chief Medical Officers will be requested for recommendations of physicians who have five or more years of service time who display leadership characteristics. A pool of physicians would then be invited to Aberdeen and given Dr. Rhoades' perception of need to help new IHS physicians. The physicians would be asked to volunteer to transfer and would not be assigned.

QUESTION: What is the unmet need for medical personnel in the Aberdeen Area?

ANSWER: The need within the Aberdeen is for six to eight career physicians with leadership abilities. Each physician would be assigned to a service unit in the Aberdeen Area.

QUESTION: How many of those positions, by category and discipline, would be taken from the Phoenix Area.

ANSWER: No more than three physicians from the Phoenix Area would be asked to volunteer for an assignment to the Aberdeen Area.

These physicians would have at least five or more years of Federal Service and would either be Family Practice, Internists, or Pediatricians.

QUESTION: How would medical services to Indian Patients in areas losing personnel be affected?

ANSWER: There would be little or no effect in the medical services provided to Indian patients in in the Areas losing personnel. The Areas losing career physicians would have as replacements physicians with less than five years of Federal Service so that they can obtain IHS, PHS, and career government experience.

QUESTIONS SUBMITTED BY SENATOR TED STEVENS

Facilities Priority List

QUESTION: Please provide the Committee with the Indian Health Service (IHS) Facilities Construction Priority List for inpatient and outpatient facilities.

ANSWER: Partially funded:

Inpatient
- Rosebud, South Dakota Hospital
- Sacaton, Arizona Hospital
- Anchorage, Alaska Hospital
- Wagner, South Dakota Hospital
- Pine Ridge, South Dakota Hospital

Unfunded:

Inpatient
- Kotzebue, Alaska Hospital
- Shiprock, New Mexico Hospital
- Harlem, Montana Hospital
- Fort Defiance, Arizona Hospital
- Crow, Montana Hospital

Ambulatory
- Toppenish, Washington Health Center
- Parker, Arizona Outpatient Department
- Fort Hall, Idaho Health Center
- Sallisaw, Oklahoma Health Center
- Belcourt, North Dakota Outpatient Department

Alaska Native Medical Center

QUESTION: $2 million was appropriated in FY 84 for planning of a replacement for the Alaska Native Medical Center in Anchorage. Please advise the Committee of the status of this project, in particular: a) cost estimates for the entire project; b) projected schedule for planning, design, and construction funding requests and, if no such requests are planned, an explanation of how IHS intends to cope with the health care service problems posed by the outdated design of the current facility and c) of any plans for a cooperative arrangement with other entities in the Anchorage area, including the State of Alaska, the University, the Veterans Administration.

ANSWER: The last official cost estimate for the replacement of the ANMC was made June 21, 1983 by Office of Engineering Services, Region X (OES - X) - formerly ROFEC-X - in Seattle. The cost estimate is $105,647,420. In March 1984, the Director, Office of Facilities and Management Services/OASMB/OS was asked to provide an order of magnitude cost estimate for the Anchorage replacement facility and to review the estimate made by OES. This was done, resulting in an order of magnitude replacement cost estimate of $92,858,000. In 1984 Congress appropriated $2 million to do Phase I of the planning and design for this project. Work is underway to update the Program Information Document (PID). No funds have been requested in FY 1986. Additional funds for completion of design will be requested when the PID is completed. The Indian Health

Service (IHS) has confirmed its commitment to a planning process that reflects an innovative approach to a possible replacement facility. The IHS will work with the University of Alaska, the Centers for Disease Control, and the State of Alaska to explore the possibility of planning a project that would incorporate needs and identity of each agency. The Veterans Administration will not be a part of this joint venture.

QUESTION: If IHS resources are dedicated to the ANMC replacement project, how will this affect the availability of resources for other critical projects in Alaska, such as the replacement of the Kotzebue service unit, which tops the IHS priority list?

ANSWER: The Anchorage Medical Center is the IHS #3 priority. Rosebud, South Dakota and Sacaton, Arizona are ranked 1 and 2. Kotzebue, Alaska ranks #6. The funding of the Anchorage Medical Center should not affect the other critical projects in Alaska since funding for Anchorage will be phased over the period of development or approximately four years.

Alaska Village Clinic Leases

QUESTION: Please provide the Committee with an explanation of how the $400,000 appropriated in FY 85 for the Alaska village clinic leases is being allocated.

ANSWER: The first priority for the $400,000 appropriated for the Village Built lease program is to increase lease costs of existing clinic leases that have been eroded by inflation over the past several years. The remaining funds will be utilized for initiating new Village Built Clinic leases (at least twelve). Currently, the Area Property Management Section is in the process of making a plan (reviewing existing leases and selecting new villages for potential leases) that would be used in committing the $400,000.

QUESTIONS SUBMITTED BY SENATOR PETE V. DOMENICI

Indirect Costs

QUESTION: It is my understanding that a $614,949 shortfall in approved administrative overhead costs for FY 1985 contracts with the Indian Health Service will be experienced by the Albuquerque, New Mexico, Area Office. Is this correct amount of the anticipated shortfall for these costs?

ANSWER: Yes.

QUESTION: Does the Administration intend to request an FY 1985 supplemental appropriation for this amount?

ANSWER: An FY 1985 supplemental request is not planned at this time.

QUESTION: If a supplemental is not requested, what plans does the Indian Health Service have to provide this funding administratively to the Albuquerque Area Office for payment to the contractors in FY 1985?

ANSWER: Currently both indirect and direct costs are charged to the funds identified for the contracted program, the Albuquerque Area would have to fund only those activities it is capable of supporting within their allocation.

QUESTIONS SUBMITTED BY SENATOR DALE BUMPERS

FY 1986 Budget

QUESTION: Do you think the FY 86 budget proposal will allow for improvements to erase any disparity in services?

ANSWER: No. The FY 1986 budget estimate represents a freeze from the 1985 level.

QUESTION: What effects will the decrease in funding for preventive health programs for FY 86 have on your efforts in this area?

ANSWER: The budget reduction calls for the elimination of the CHR program and for reductions in other services under Preventive Health. This naturally will affect services delivered, however, the extent of the effect is not known at this time.

QUESTIONS SUBMITTED BY SENATOR JEFF BINGAMAN

Preventive Health

QUESTION: Currently, what resources are spent in the IHS budget on Health Promotion and Disease Prevention? Please specify the activity and the amount and what percentage of the total IHS budget this entails.

ANSWER: Those activities clearly defined as Preventive in nature currently consume about 7% of the total IHS budget. This amounts to $65,000,000 in funds appropriated specifically to prevention activities. A variety of other activities involving Disease Prevention and Health Promotion are performed by health professionals funded under other budget activities. This would include fluoridation initiatives (funded under dental), Maternal and Child Health, prevention activities (funded under Hospitals and Clinics activity), etc. Those activities that are specifically identified as preventive include: Public Health Nursing, Heath Education, Sanitation, Community Health Representatives, and the Hepatitis B Immunization Program in Alaska.

QUESTION: How are these Prevention Activities selected for funding and emphasis?

ANSWER: The activities funded as prevention services were determined to be appropriate based on epidemiologic analysis of Indian populations. Then a determination was made as to the most effective programmatic approaches available to address the most significant health problems. Thus, for instance, the Hepatitis B Screening and Immunization Program was developed to address the fact that Hepatitis B was 20 times more common among Alaska Natives than in the general U.S. population. The other prevention activities, including those funded under the Hospitals and Clinics budget activity, have been developed along similar lines.

QUESTION: What amount does the Indian Health Service anticipate it would cost to establish a community-wide demonstration project that would provide Health Promotion and Disease Prevention Services to an Indian Community/Tribe?

ANSWER: If a project were started from the beginning the costs for the services including: Personnel (up to 12 FTE's); Supplies; Travel; and Administration Support would approach $300,000. The addition of an evaluation component by an outside source such as a university school of Public Health could add $100 - 150,000 yielding a total requirement of $450,000 this would allow for a meaningful model project serving a community of 10 - 15,000 individuals.

QUESTION: Please specify how IHS would deliver such services and what it would envision as an effective project.

ANSWER: Programs that approach a model Disease Prevention/Health Promotion delivery system are currently functioning within the Indian Health Service. The most outstanding example perhaps is operating in Zuni, New Mexico. In this program all 15 of the 1990 Objectives are being addressed. Furthermore, this program demonstrates a high degree of community ownership for many of the Health promotion concepts and activities. The specific services provided in the community that are focused on meeting the 15 Objectives include: Health Education, Public Health Nursing, Public Health Nutrition, Environmental Surveillance, Community Injury Control, Mental Health, Maternal and Child Health, Dental, and Medical Services (including infectious disease control and high blood pressure control). The effectiveness of the project should be based on improving health status. Because of the paucity of research/evaluation capability extensive outcome analysis has not been accomplished to date. Available data does indicate positive health impacts.

SUBCOMMITTEE RECESS

Senator McCLURE. The subcommittee will stand in recess until Thursday, May 9 at 2 p.m., at which time we will review the fiscal year 1986 budget estimates for the Bureau of Land Management.

Thank you very much.

[Whereupon at 3:15 p.m., Tuesday, May 7, the subcommittee was recessed, to reconvene at 2 p.m., Thursday, May 9.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

THURSDAY, MAY 9, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:15 p.m., in room SD–138, Dirksen Senate Office Building, Hon. James McClure (chairman) presiding.

Present: Senators McClure and Bumpers.

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

STATEMENT OF ROBERT F. BURFORD, DIRECTOR

ACCOMPANIED BY:

- **JAMES M. PARKER, ASSOCIATE DIRECTOR**
- **NEIL F. MORCK, DEPUTY DIRECTOR FOR LANDS AND RENEWABLE RESOURCES**
- **JOHN E. LATZ, DEPUTY DIRECTOR FOR ENERGY AND MINERAL RESOURCES**
- **ARNOLD E. PETTY, DEPUTY DIRECTOR FOR MANAGEMENT SERVICES**
- **ROGER L. HILDEBEIDEL, CHIEF, OFFICE OF BUDGET**
- **ANTHONY ITTEILAG, DIRECTOR OF BUDGET, DEPARTMENT OF THE INTERIOR**

PREPARED STATEMENT

Senator MCCLURE. First let me open by apologizing for being late. As you can tell, we just had a vote on the floor and I was waiting for that rollcall before coming. We're trying to protect the President's budget along with what's left of our own.

This is the time scheduled to consider the fiscal year 1986 budget estimate for the BLM. The Bureau's request for its major operating account is $364,524,000, a reduction of $21,329,000 or 6 percent from 1985 appropriations to date.

Testifying on behalf of the Bureau today is its Director, Mr. Robert F. Burford. You're welcome before this committee again, Mr. Burford. You're no stranger and it's a pleasure to welcome you back. If you'll introduce those with you at the table, we'll place your statement in the record in full and proceed directly to the questions.

[The statement follows:]

STATEMENT OF ROBERT F. BURFORD

Thank you for the opportunity to discuss the President's FY 1986 budget request for the Bureau of Land Management (BLM). Our request reflects the continuation of this Administration's commitments to attaining a balanced use of the Nation's public lands which the BLM manages and to improving the efficiency of management of these lands.

The Bureau is currently responsible for the management, conservation, and development under the principle of multiple-use of both surface and mineral resources on 310 million acres of public lands located in 28 States, including 138 million acres of land in Alaska. This area constitutes about 14 percent of the total land surface of the United States. The Bureau also administers mineral leasing and supervises mineral operations on some 370 million additional acres of Federal mineral estate underlying other federally administered, State or private ownerships throughout the United States. Additionally, the Bureau supervises mineral operations on most Indian lands.

SUMMARY OF FY 1986 BUDGET REQUEST

The total FY 1986 budget request for BLM is $501 million, a decrease of $162 million from the 1985 appropriations enacted to date. This reduction primarily reflects the proposed transfers to the Forest Service of the Oregon and California grant lands program (a decrease of $54.3 million) and of the responsibility for making payments to O&C counties (a decrease of $67.6 million) and a $5.1 million decrease from the transfer of the permanent appropriation for western Oregon road maintenance.

These transfers are an integral part of the Administration's proposed interchange of intermingled lands and related management functions between BLM and the Forest Service (FS) to enhance public service, to improve administrative efficiency, and to reduce the costs of managing federally-owned lands. Many specific details of this initiative are still being developed, but the concept for the proposed interchange of lands and responsibilities between the two agencies clearly holds the opportunity for more efficient public land management in the future.

The 1986 Budget also reflects the Bureau's continuing efforts to encourage private investment and voluntarism and to work with State and local governments and private users to share in the funding and administration of various activities of predominantly local interest.

Special emphasis is given throughout the 1986 Budget to the programmatic priorities of the Department. These include increased responsiveness and professionalism in managing Federal minerals, management of heavily used recreation areas, establishment of new partnerships and cooperative endeavors in natural resources management, and continued improvements in agency management practices. Funding priority has also been placed on those programs which protect existing public investment in facilities and resource projects, respond to regional and local economic needs, and ensure both visitor and resource protection. In particular the Budget reflects the Department's continuing interest in high priority energy and minerals work such as classification, post-lease management, inspection and enforcement and cooperative inspection with States and Indian tribes.

MANAGEMENT OF LANDS AND RESOURCES (MLR)

The FY 1986 request for MLR, the Bureau's largest appropriation account, is $364,524,000, a decrease of $21,329,000 from the FY 1985 enacted to date. A more meaningful comparison with the base level of $381,085,000, which includes adjustments for the 1985 pay raise, the proposed 1986 pay cut, transfers, management initiatives including the Administration's proposed 10 percent reduction in administrative and headquarters offices, and other changes, shows a total decrease of $16,561,000.

I would like to highlight the major changes in the FY 1986 MLR request.

Energy and Minerals Management

The energy and minerals management budget of $82,817,000 is an increase of $3,121,000 over the base level. This program includes the evaluation, leasing and supervision of Federal coal, oil and gas, geothermal, oil shale and tar sands resources; management of nonenergy mineral resources such as phosphate, potash, uranium, and sand and gravel; administration of mining laws; and supervision of operations on Indian mineral leases.

The request for the fluid energy minerals subactivity is $46,701,000, which includes an increase of $2,577,000 for the oil and gas program. This increase will be used to support increased workloads in known geologic structure (KGS) determinations, drainage reviews, approval of drilling permit applications, and enhanced inspection and enforcement including additional cooperative agreements with States and Indian Tribes. Also within fluid energy minerals a $500,000 decrease is proposed in the geothermal program to reflect the reduced level of industry demand and BLM's continued improved capability to supervise industry operations on all Federal leases.

The solid energy minerals requested level of $21,323,000 includes an increase of $850,000 in the coal program which will provide funds for intensified post-lease management, including lease readjustments under the diligence requirements of the Federal Coal Leasing Amendments Act (FCLAA), and additional inspection and enforcement. The funding level for the oil shale and tar sands program is unchanged at $2,274,000, with emphasis on reviewing industry development plans for oil shale and completion of conversions to combined hydrocarbon leases in special tar sands areas.

The nonenergy minerals subactivity request of $14,793,000 provides for an increase of $194,000 to fund additional monitoring of mining activity and performing additional mining claim validity examinations.

Lands and Realty Management

The requested funding level for lands and realty management is $38,068,000 which is a decrease of $3,030,000 from the base level. This is possible because of the anticipated recovery from applicants of additional Federal Government costs for rights-of-way processing; a reduction of the case workload for desert land applications; a stretch-out in the "other agency" withdrawal review schedule; and the realization of program efficiencies from ongoing efforts.

The proposed funding provides for processing non-cost recoverable rights-of-way applications, some 310 Recreation and Public Purposes Act cases, 450 desert land entry applications, the transfer of 50,000 acres for State indemnity selections, the exchange of 215,000 acres with State and private entities, and the sale of 40,000 acres under the Federal Land Policy and Management Act (FLPMA). Funding will also continue work on the Burton-Santini Act, New Mexico Rio Grande occupancy resolution, the Navajo-Hopi Relocation Act exchanges, and Automated Land and Mineral Record System (ALMRS) implementation.

In Alaska the program provides for the issuance of interim conveyance or patent for 2 million acres to Native corporations, conveyance of 3.4 million acres to the State of Alaska and the processing of 850 Native allotments.

Renewable Resources Management

In FY 1986 we are requesting $95,725,000 for renewable resources management, which is a reduction of $17,209,000 from the base. Continuing emphasis is placed on improving and simplifying administrative processes and on cost sharing by private individuals, groups and local governments in programs which are primarily of local interest.

The wild horse and burro program is decreased by $10,647,000 to near the 1984 level as a result of the accomplishment of significant levels of removals with funding available in 1985. An estimated 4,000 animals will be removed at the 1986 level of funding. The program request is based on the assumption that Congress will enact sale authority for 1986 to give the BLM an additional alternative to that of holding and feeding horses in corrals, besides the adopt-a-horse program.

A $1,320,000 reduction in forest management will be possible because of the proposed interchange of the intermingled public domain lands in western Oregon with the Forest Service and by concentrating efforts to eliminate reforestation backlogs primarily on those areas with higher timber resource values.

A $1,682,000 decrease in grazing management will result from the continuation of efforts to concentrate work on those allotments most requiring intensive management and monitoring to improve their condition in accordance with our Grazing Management and Range Improvement policies, plus reduced levels of inventory as the grazing environmental impact statement (EIS) preparation schedule winds down.

A decrease of $2,850,000 will be possible in the soil, water, and air management program by reducing soil and water inventories while still providing the level needed to meet the grazing EIS schedule and energy leasing goals. Priority will be given to soil and water improvement projects with higher benefit/cost ratios that enhance and protect resource values. The hazardous materials program will be continued at the current level of $1,274,000, but the focus of the program will change from site inventory and identification to site planning and clean-up.

The proposed decrease of $2,050,000 in the wildlife habitat management program reflects: 1) a decrease in inventory efforts as the workload associated with grazing EIS's tapers off, 2) elimination of the one-time Bighorn Sheep matching funds, 3) habitat management plan (HMP) implementation and maintenance deferral, and 4) a reduction in threatened and endangered (T&E) species recovery plan implementation work.

Despite a small net decrease of $60,000 in the recreation management subactivity, BLM will intensify efforts and funding to provide greater resource protection to critical recreation management areas. This increased activity will be offset by the deferral of lower priority work in the cultural resources management program.

An increase of $1,400,000 in fire management provides funding for critical services essential to planning, organizing and executing fire management activities, including BLM responsibilities in Alaska, and to begin implementation of Phase II of the Bureau's Initial Attack Management System (IAMS) to improve fire suppression response and reduce suppression costs.

Planning and Data Management

A total of $9,239,000 is requested for planning, the same as the base level. In FY 1986, the Bureau will start 6 new resource management plans (RMP's), complete 11 RMP's, and have 19 other RMP's in progress. In FY 1986 we will place increased emphasis on the maintenance and monitoring of completed RMP's as directed by FLPMA and the planning regulations.

Data management is budgeted at $13,182,000, an increase of $376,000 over the base level. The program will continue to provide data management services and support for many Bureau requirements as well as emphasis on the development of the Geographic Information System (GIS) and Automated Land and Mineral Record System (ALMRS) components.

Cadastral Survey

The FY 1986 budget request for cadastral survey is $21,695,000. Of this amount, $11,504,000 is for Alaska surveys, a decrease of $1,800,000. At the budgeted level, BLM will conduct surveys on 200,000 acres of Native selections, 400,000 acres of State selections, and 500 Native allotment parcels. The decrease results in part from the reduction of large external boundaries surveys needed for State of Alaska and Native transactions and emphasis on combining surveys that are grouped geographically into coordinated projects for more efficient handling.

The funding level for surveys in other States is $10,191,000, a decrease of $963,000. In FY 1986, lower priority surveys will be deferred; the program will emphasize surveys needed in support of energy and minerals development programs and realty program efforts.

Technical Services

A total of $14,807,000, a net increase of $784,000, is requested for the technical services activity.

A proposed increase of $1,000,000 in the resource protection program will provide funds for cooperative agreements with local law enforcement agencies aimed primarily at eradicating illegally grown marijuana on public lands. A decrease in recreation maintenance funding is proposed and would be offset by increased recreation user fees and proposed legislation to return fees for use by the Bureau. An increase in building maintenance will allow BLM to maintain the public's investment in Bureau-owned facilities.

General Administration

The 1986 Budget provides $84,890,000 for general administration, an increase of $2,508,000 over the base level. However, within this activity, decreases are proposed in executive and managerial direction, equal employment opportunity, and, particularly, administrative services support. This reflects efforts to improve management efficiency, consolidate administrative support service functions and reduce the size of headquarters and administrative organizations. Of the total increase over the base, $688,000 is to cover rising communications costs, such as telephone and postal service costs. The remainder of the increase ($1,820,000) is for initial costs associated with implementation of the proposed interchange of lands and related management responsibilities between BLM and the Forest Service.

CONSTRUCTION AND ACCESS

No funding is proposed for new construction projects. The 1986 request provides $1,203,000 for the access program. The funding for the access program is for the purchase of those easements which provide access necessary to get products to market and develop needed resources.

LAND ACQUISITION

No new funding for land acquisition projects is requested in FY 1986.

PAYMENTS IN LIEU OF TAXES

The FY 1986 request for Payments in Lieu of Taxes (PILT) is $105,000,000. The $2,100,000 increase over the amount appropriated in 1985 is necessary to provide the full funding expected to be required under existing statutory formulas to make payments to counties for Federal entitlement lands within their boundaries.

OREGON AND CALIFORNIA GRANT LANDS

No funding is requested in this BLM appropriation for 1986 reflecting the proposed transfer of management responsibility for these lands in western Oregon to the Forest Service as part of the proposed initiative to interchange intermingled lands and related management responsibilities throughout the West between BLM and the Forest Service.

RANGE IMPROVEMENTS

The request for range improvement funds is $10,000,000, the same as the 1985 level. The grazing fee for the 1985 grazing year is $1.35 per animal unit month (AUM), a decrease of 2 cents from 1984. These fee levels, derived from the grazing fee formula established by Congress in 1978, will not generate receipts in 1985 or 1986 in excess of the $10,000,000 minimum cited in the Public Rangelands Improvement Act (PRIA). Grazing fee formulas have been the subject of a joint BLM/Forest Service study required by PRIA, the results of which are now out for public review, and recommendations will be reported to Congress later this year.

SERVICE CHARGES, DEPOSITS, AND FORFEITURES

Under the provisions of the Federal Land Policy and Management Act (FLPMA) of 1976, administrative expenses and other costs related to processing applications for rights-of-way, other land use authorizations and conveyances, adoption of wild horses and burros, and repairs to damaged lands can be recovered through service charges, deposits of funds, and forfeitures of performance bonds. In 1986, an increase of $1,850,000 in revenues generated from processing rights-of-ways is anticipated as a result of the implementation of regulations for processing FLPMA cases and proposed changes in appropriation language which will allow the recovery of actual costs.

MISCELLANEOUS APPROPRIATIONS

A number of statutes provide that a specified percentage of the revenues generated by the sale of public lands, mineral resources and surface resource products be shared with the States or counties within which the revenue was generated. These amounts are permanently appropriated under the terms of these laws. In FY 1986, it is estimated that $11,900,000 will be paid to States and counties under these appropriations. This represents a decrease of $68,000,000 from the estimated payments in 1985 which results largely from the proposed transfer of the timber lands in western Oregon, and the responsibility for making associated payments, to the Forest Service. It should be noted that the proposed transfer of responsibilities for the Oregon and California (O&C) grant lands would not change the formula for sharing receipts with the O&C grant land counties. The FY 1986 estimate for the BLM trust funds requiring current appropriation is $100,000.

In addition, other contributions are permanently appropriated for resource improvement projects and land survey work.

RECEIPTS

For FY 1986, the BLM will collect an estimated $89,686,000 in receipts from sales of lands and vegetative products, grazing fees, timber sales and miscellaneous sources. This is a decrease of $113,505,000 from these same sources in FY 1985.

Most of this decrease results from the proposed interchange with the Forest Service, which would also then be responsible for receipt collection. Receipts from grazing have been projected to increase by $11.2 million to an estimated $27.2 million in the budget;

however, no recommendation on actual grazing fee levels will be made until the completion of the public review and comments on the joint BLM/FS grazing fee study mandated by the Public Rangelands Improvement Act (PRIA) of 1978.

Receipts from recreation use fees are also projected to increase by $300,000 in FY 1986 to a level of $1,000,000 due to anticipated increases in fees charged to holders of special recreation use permits under 43 CFR 8370, Use Authorizations.

In addition, BLM activities contribute directly to the generation of more than $1 billion in additional receipts (bonuses, rents, royalties) connected with the leasing of onshore Federal minerals. These receipts are accounted for and disbursed by the Minerals Management Service.

Mr. Chairman, this concludes my prepared statement on the FY 1986 Budget request for BLM. My associates and I are ready to answer your questions and provide whatever additional information is necessary to enable you to assess our budget request. Thank you.

INTRODUCTION OF ASSOCIATES

Mr. BURFORD. Thank you, Senator. On my far left is Arnold Petty, Deputy Director for Management Services. To my immediate left is Roger Hildebeidel, Budget Officer. On my far right is John Latz, Deputy Director for Energy and Minerals. Neil Morck is next, he's Deputy Director for Lands and Renewable Resources. And my Associate Director, Jim Parker. Seated in the first row is Tony Itteilag, Director of Budget for the Department, who may be called upon to answer questions pertaining to the overall budget.

With that introduction and with the acceptance of my prepared testimony, we are ready to answer questions.

MANAGEMENT SAVINGS PROJECTED FOR 1986

Senator MCCLURE. Thank you very much.

I notice that the Bureau is planning to absorb $4,344,000 of the fiscal year 1985 pay increase. An additional $1,997,000 needed in 1986 to cover part of the 1985 pay increase has been requested. An additional $8,554,000 savings is projected in 1986 as a result of the 5-percent pay cut proposed for Federal employees. In 1986, the Bureau's justification states that it will save $1,235,000 by improving its position management system. Another savings of $5,414,000 is anticipated in 1986 as a result of eliminating 158 positions in the Bureau's headquarters and other Bureau administrative organizations.

If I remember properly, the Bureau also proposed $9,408,000 in rescissions as a result of section 2901 of the Deficit Reduction Act of 1984. It seems to me if we're to implement your budget proposals, we would in effect be cutting the 1985 and 1986 programs a total of $30,952,000. If that assumption is correct, can you explain to us how you would accommodate such a large reduction in spending?

Mr. BURFORD. As you correctly inferred, a large part of that is going to take place in the Washington headquarters by reduction of people there. We are also working on the so-called grade bulge. We have some reclassifications taking place in field offices whereby a good number of district managers' positions as a result of a new classification study by OPM have been reduced in grade one or two levels, either down to 12, 13 or 14; for some of them 15. The cumulative total of all these will provide us, we think, with the savings which we project.

Senator MCCLURE. One of the savings proposes to eliminate 158 positions. Do any of these savings assume enactment of legislation such as the Forest Service/BLM interchange proposal?

Mr. BURFORD. None of those positions there does.

Senator MCCLURE. Do you have a tabulation of where those positions would be eliminated?

Mr. BURFORD. I don't think I have a complete list here, but I will furnish it.

Senator MCCLURE. If you would, please, for the record.

[The information follows:]

DISTRIBUTION OF REDUCTION IN ADMINISTRATIVE FTE'S

The anticipated savings of 158 headquarters and administrative FTE's result from: contracting agreements (17), consolidation of mail and small purchasing services (13), improved ADP management (4), streamlining of procedures and functions (47), improved ratios of personnel and procurement staffing (20), and reductions in program overhead organizations (57). Fifty-one of the total FTE savings would occur in the Washington office, and the remaining 107 would occur in the State offices, the Denver Service Center, and the Boise Interagency Fire Center.

ESTIMATE OF ONSHORE OIL AND GAS RESERVES

Senator MCCLURE. According to this morning's Washington Post, the Department has substantially reduced its estimate of recoverable oil in offshore waters. In fact the estimate has been reduced more than 50 percent, I believe. What impact do you anticipate that will have on the Bureau's onshore leasing programs?

Mr. BURFORD. Well, the impact on us will probably be an increase in demand for leases, and that's one of the things that the Under Secretary is addressing at the present time in her assessment of the simultaneous oil and gas leasing system. As you know, we have had numerous allegations about that system. The last GAO report which was prepared for Congress showed that actually the system was working well both in its main stated objective, which is to provide availability of lands, and also in the secondary objective of obtaining a fair price for those lands. This is contrary to the impression which is held by a good number of people in Congress.

Senator MCCLURE. What's the latest estimate of recoverable reserves onshore?

Mr. BURFORD. I don't believe we have those figures with us. That is a function of USGS, and we can request that information for you.

Senator MCCLURE. If you would provide that for the record, please, and also how old the estimate is and whether or not there's a plan to update that estimate in the near future.

Mr. BURFORD. Yes; we will.

[The information follows:]

RECOVERABLE ONSHORE OIL AND GAS

The latest estimate by the U.S. Geological Survey [USGS] of undiscovered recoverable resources of crude oil onshore in the United States is 54.6 billion barrels. The corresponding estimate for undiscovered resources of gas is 426.8 trillion cubic feet.

These estimates were prepared in 1980. USGS is not currently working on an update of these estimates; however, it is currently developing an assessment of onshore oil and gas resources underlying Federal land that is scheduled to be published in late 1986.

COAL LEASING PROGRAMMATIC EIS

Senator MCCLURE. What's the status of the environmental impact statement for the Coal Leasing Program? As I understand it, BLM issued a draft EIS supplement in February and intends to issue the final supplement in July. Are you still on that schedule?

Mr. BURFORD. Mr. Lawton informs me that that comment period closed today, and I think it was scheduled to close 30 days earlier. So we will have to add 30 days to the original schedule, which puts it into September, I believe.

Senator McClure. Is it just now a matter of reviewing the comments and making a final——

Mr. Burford. Codifying comments, reviewing them, and making sure that they take into consideration some of the things mentioned in the GAO report.

RIGHT-OF-WAY PROCESSING COST RECOVERY

Senator McClure. You're proposing a reduction of $1,700,000 in the Rights-of-Way Program—that's a 22-percent reduction—on the basis that reasonable costs are to be collected under the Service Charges, Deposits, and Forfeitures Program. You show an increase of $1,850,000 due to increased cost recovery. It seems like this is the fourth year in a row that we've had that proposal before us and considered it and rejected it. To date you've not been able to explain the impact of your cost recovery proposal on small farmers and ranchers or on other small operators.

For example, on page 320 you show that the number of rights-of-way cases under $5,000 would increase from 180 per year in 1985 to 375 in 1986, or more than double. What would happen to the small farmer or the rancher who needed to initiate or revise the right-of-way?

Mr. Burford. Well, under our rules which we have put out, we do mandate cost recovery under a set fee formula on smaller rights-of-ways under $5,000 and full cost recovery on those which go over $5,000. You are correct, I think, that approximately 90 percent of our rights-of-way cases do fall into the less than $5,000 figure, and some of those old rights-of-ways have been grandfathered in. But on new rights-of-ways, we will expect people to pay the processing costs as they apply.

Senator McClure. Does that apply to every one of the rights-of-way on public lands?

Mr. Burford. Cooperative REA-funded electrical and telephone lines rights-of-ways are exempted from the rentals on the Rights-of-Way Program.

Senator McClure. You live out there on that land. You've dealt with the Government for years. If you had to pay for all of the bureaucratic overhead on a right-of-way for a stock-watering tank or a pipeline or small ditch, what's the average user out there going to pay if he pays all the overhead?

Mr. Burford. Probably too much.

Senator McClure. It's not his fault you have all that overhead, is it?

Mr. Burford. No, sir; it is not.

Senator McClure. It may be as much our fault in the Congress as it is your fault.

Mr. Burford. It isn't my fault.

Senator McClure. I don't think many of these smaller operators with a small impact on public land can afford to pay or should be expected to pay full cost recovery.

Mr. **BURFORD**. The cost is a sliding scale, so we try to make it proportionate to the work involved in handling the application.

Senator **MCCLURE**. The other side of that is if indeed this 90 percent or so of the small operators and small rights-of-way are on that sliding scale of reduced or less than full cost recovery, what type of operator is going to make up the balance of this $1,850,000 increase in this category?

Mr. **BURFORD**. We are in the process of issuing a right-of-way grant, probably within the next few days, on a very large pipeline which goes from California to Texas. There's another line proposed, a gas line, going the other direction. Those large projects such as those pipelines will pick up a good deal of that figure. There are two oil pipelines proposed coming from the west coast into Texas: PanTex is one of them, and All-American is the other one. The rights-of-way expenses on those two are going to be considerable; plus the new proposed gas line.

Senator **MCCLURE**. Do you have a breakdown as to how much you expect to get of these increased fees from that kind of application, as compared to how much you expect to get from the others?

Mr. **BURFORD**. I'll break that out and provide that in the record, if I may.

Senator **MCCLURE**. If you would, please.

[The information follows:]

BREAKOUT OF RIGHTS-OF-WAY INCREASE

It is anticipated that approximately $600,000 of the $1,850,000 increase projected for rights-of-way cost recovery will come from major cases costing over $5,000 to process. Of the remaining $1,250,000, past history would indicate that about 80 percent will come from cases involving business concerns in areas such as utilities, mining, and oil and gas.

DESERT LAND ENTRY CASES

Senator **MCCLURE**. Let me get into an area I hate to get into because I've had to get into it every year that I have been here, which is more years than you have been there, and it's still an issue. Last year we added $500,000 to help BLM clean up its backlog of desert land entry cases. According to your justification, at the end of 1985 you will essentially have eliminated all desert land entry cases in California, Colorado, Montana, South Dakota, Oregon, Washington, Utah, and Wyoming. This would leave only Idaho and Nevada with backlogs.

Of course, they are the only ones that have an active program. At the beginning of 1985, Nevada had 767 cases pending, and Idaho had 789 cases pending. During 1985, you estimate that you will do 185 cases in Idaho leaving 604, and 418 in Nevada leaving 349. Of the total of 953 cases remaining, you estimate most are tied up with water availability problems of one type or another and, therefore, case processing will necessarily proceed slowly. Do I outline the situation correctly?

Mr. **BURFORD**. Yes, sir; that is correct.

Senator **MCCLURE**. What can be done to accelerate those Idaho cases? Are we assisting the State engineer in making determinations that ground water reserves are not being overappropriated?

Mr. BURFORD. Well, I think you've correctly identified where the holdup is. I know that you are more familiar with that Idaho Power case that has broken loose than I am, but it's my understanding now that there is an Idaho Department of Water Resources development plan which calls for an additional 20,000 acres of irrigation each year. The priority of the State has been in the upper part of the basin where private lands predominate. Also we have 170 cases involved in the Birds of Prey expansion area which is in court, and some of those DLE cases are tied up by that lawsuit.

We do anticipate that we'll process desert land entry cases in Idaho as soon as these State actions and court actions are completed.

Senator MCCLURE. Did I understand you to say that the State water department in Idaho has a plan for development at the rate of 20,000 acres per year?

Mr. BURFORD. That's the information we have. There's a gentleman from the legislature in the room that you might call on if you wish further information.

Senator MCCLURE. I might do that. My recollection has been that that 20,000-acre-per-year development schedule was your own.

Mr. BURFORD. According to my notes, it's the Idaho Department of Water Resources' schedule.

Senator MCCLURE. I'll be very interested if that's true.

Mr. BURFORD. I'll check the facts on this information sheet and report back to you.

Senator MCCLURE. If you will, please, because I don't think there's any sanction for it or any authorization for such a development plan on the part of the BLM.

Mr. BURFORD. No.

Senator MCCLURE. Am I correct?

Mr. BURFORD. That's correct.

[The information follows:]

STATE OF IDAHO WATER PLAN

The State of Idaho water plan, policy 32 C–Agriculture, allows for reallocation of water for up to 80,000 acres in a 4-year period in the basin above the Murphy Station. The Bureau has been informed that the Idaho Department of Water Resources intends to foster orderly progress within the context of this policy by developing an average of 20,000 acres per year, not to exceed 80,000 acres in any 4-year period.

PUBLIC DOMAIN REFORESTATION BACKLOG

Senator MCCLURE. Last year we added $1.5 million for reforestation and timber stand improvement on public domain lands. We did this because the backlog of reforestation on public lands had reached 20,393 acres and the TSI backlog had reached 23,352 acres. At the 1985 rate of accomplishment, this is about a 12-year backlog of reforestation and a 6-year backlog of TSI. However, you're proposing a budget reduction of $400,000 in the TSI Program, reducing the acreage from 3,379 to 879 acres. At this rate, what will the TSI backlog increase to in 1986?

Mr. BURFORD. I'll call on Neil Morck for that. He's more familiar with that program than I am.

Mr. MORCK. Our backlog will probably continue to remain relatively constant until we complete our inventories. The inventories will adjust those acres shown on the current backlog in 1984. The timber stand improvement backlog actually was 23,000 acres as of the end of 1984, and we picked up an additional 4,355 acres. Our work this year should reduce that by some 3,700 acres.

Senator MCCLURE. You mean this year being 1985?

Mr. MORCK. That's right.

Senator MCCLURE. You'll still be behind where you were 1½ or 2 years ago, and then you reduce the rate by almost two-thirds? Won't you fall behind even further instead of catching up on the backlog?

Mr. MORCK. That's correct. Again, our approach——

Senator MCCLURE. We may be some 2,500 to 3,000 acres worse off at the end of next year?

Mr. MORCK. Depending on our level of cut, that's correct.

WILD HORSE AND BURRO PROGRAM

Senator MCCLURE. You are proposing a reduction of $10,647,000 in your Wild Horse and Burro Program in 1986. Apparently your budget estimate assumes enactment of sale authority for excess animals; is that correct?

Mr. BURFORD. Yes, sir; that is correct.

Senator MCCLURE. If sale authority legislation is not enacted, how much will we need to maintain unsold animals?

Mr. BURFORD. A little in excess of $6 million—$6,300,000.

Senator MCCLURE. How many more excess animals need to be removed before the excess population on the public lands has been reduced to the appropriate management level—and I believe that is 22,000; is that correct?

Mr. BURFORD. That figure is not a static figure. It ranges from 22,000 to 25,000 animals if I remember correctly. Some of the land use plans on which those levels are based have not been completed, but I think it would require another reduction of about 17,000 head to get down to what we think the carrying capacity of the range should be.

Mr. MORCK. Mr. Chairman, we'd need to take off approximately 17,000 head annually for the next 2 years to reach our management levels in 1988.

Senator MCCLURE. How much would it cost to remove those animals during 1986?

Mr. MORCK. The preferred approach, of course, would be sale authority. If we removed 17,000 head per year for 3 years, the cumulative cost would be about $12.6 million excluding other program requirements.

Senator MCCLURE. Without sale authority?

Mr. MORCK. The total program probably would require something like $20 million a year over the next 2 years, or each of the next 2 years

I should say. And that envisions, of course, an extensive program of feeding those animals that are not adopted.

NATIONAL ACADEMY OF SCIENCES STUDY

Senator McClure. What's the status of the population research funded for an additional $1 million in fiscal year 1985 through the National Academy of Sciences?

Mr. Burford. That contract has been let, and they are working on it.

Mr. Morck. The contract has been let to the National Academy of Sciences to develop the proposals, and we anticipate having those proposals in hand and the contracts let by the end of this fiscal year. We were very slow in getting their initial response and putting the committee together. We don't anticipate a problem or any results in fiscal year 1985. We would not have been able to get results from a particular research contract by the end of this year in any event.

Senator McClure. I would hope to get the contracts let by the end of this year.

Mr. Morck. We see no problem doing that.

Senator McClure. Will we need money in 1986 for the continuation of those contracts?

Mr. Morck. No; the present contract is set up to obligate all these funds and to complete the work with the funds that are allocated.

RANGE IMPROVEMENTS

Senator McClure. You are proposing a reduction in on-the-ground range improvements of $1,112,000. The number of allotments receiving on-the-ground improvements would decline from 520 in 1984 and 1985 to 440 in 1986. That's a 15-percent reduction. Your justification states that allotments receiving funding are those that have the highest benefit/cost ratio, and perhaps that's as it should be. What would be the benefit/cost ratio for those 80 allotments not receiving improvements?

Mr. Morck. I don't have the specific figures on those 80 allotments.

Senator McClure. Could you provide that for the record, please.

[The information follows:]

Benefit/Cost Ratio for Range Improvements

The typical benefit/cost ratio for the 80 highest priority allotments for which improvements would be deferred beyond fiscal year 1986 would range from 1.6:1 to 2:1. About 20 percent would have ratios of 1:1, and a few might have ratios as high as 3:1 or 5:1. Overall, the average benefit/cost ratio on this group of allotments is only slightly lower than those receiving improvements, that is, the average on the 440 other allotments is estimated to be 2:1 or slightly higher. Other factors are also considered when developing funding priorities, such as relative importance of resource management needs and, in other examples, the willingness of the rancher to participate in the improvements through contributions.

GRAZING RECEIPTS

Senator McClure. You state that for budget purposes you assume that the grazing fee will increase from $1.35 per AUM in 1985 to $2.55 in 1986. How much additional revenue does this generate, and how much of that will be available for on-the-ground improvements through the range betterment fund?

Mr. Burford. I think I have that figure with me. It may take a minute to find. It is about $11 million.

Senator McClure. That's the additional?

Mr. Burford. Yes; that is the additional revenue; 50 percent of it would be for the on-the-ground improvements if the present formula is retained. If I remember the date on the expiration of the current fee formula, it's the first of the year, and our billing date is the first of March. So there will be a period in there at the old rate, and I don't know what the new rate will be.

Senator McClure. You know the history of grazing fee legislation at least as well as I; and without belaboring that subject, I suggest we'll probably have a debate over that again.

Mr. Burford. I anticipate a debate. I can't say that I'm looking forward to it.

Senator McClure. When we look at that issue, I also look at the amount of money that will be generated and how much will be available for the range betterment fund, because what I'm really getting at is the need for on-the-ground improvements. I can't think of any other investment that provides as much multiple use benefit as do fence and water and range improvements. Ideally these funds would be derived from receipts; but as long as they are good investments, the return-positive benefit/cost ratios that are not being covered by receipts, shouldn't we use appropriated funds to make up the balance?

Mr. Burford. Well, I think so, but that's a personal observation.

Senator McClure. You have a difference of opinion with OMB on that.

Mr. Burford. I never publicly disagree with OMB.

Senator McClure. I understand that. As Director of the Bureau of Land Management, you never personally disagree.

Mr. Burford. That's correct. I think you trapped me on that one.

NOXIOUS PLANT CONTROL

Senator McClure. Another reduction of $200,000 is proposed for the Noxious Plant Control Program. What does that leave in the base?

Mr. Burford. It leaves $300,000 in the base.

Senator McClure. Could you provide for the record a 5-year State-by-State breakdown of acres needing treatment, acres treated, Federal versus non-Federal spending and private versus State versus Federal acres affected?

Mr. Burford. Yes; we can get that, I think. I'm wondering about the acres needing treatment. I'm not sure they are all identified, but we'll see that you get what we do have.

Mr. MORCK. We have some information. The acres infested are dynamic, but we'll do the best we can.

Senator MCCLURE. If you will; and if you feel that the information that you have is inadequate in a particular area, would you note that you feel that it is inadequate so we'll at least know how good the figures are?

[The information follows:]

NOXIOUS PLANT PROGRAM

The best information available to the BLM is for public land acres treated or planned for treatment from fiscal year 1983 through fiscal year 1986. We do not have reliable information available concerning non-Federal acres or costs. Following is the information concerning the public lands managed by BLM:

BLM NOXIOUS WEED PROGRAM FISCAL YEAR 1983–86 ESTIMATE

	1983		1984		1985 planned		1986 planned	
	Acres	$000	Acres	$000	Acres	$000	Acres	$000
Colorado	300	24	240	18	40	3	25	2
Idaho	2,200	60	2,340	82	3,000	55	3,040	62
Montana	969	162	1,400	182	1,400	132	950	90
Nevada	30	2	40	3				
Oregon	10,600	89	11,262	94	11,012	72	10,000	60
Utah	50	2	203	17	2,500	63	800	20
Wyoming	1,127	150	1,443	140	1,425	190	680	90
Total	15,276	489	16,928	536	19,377	515	15,495	324

PUBLIC LAND ACRES AFFECTED BY OR THREATENED BY NOXIOUS WEEDS (DATA FOR SELECTED STATES ONLY—DOES NOT INCLUDE ALL NON-FEDERAL LANDS)

[Acres in thousands]

	BLM—Administered land		Other land in State		Total area of State acres	
	Affected by noxious weeds[1]	Total BLM public lands	Affected by noxious weeds[2]	Total non-BLM land area	Affected by noxious weeds[2]	Total land areas
Idaho	59.4	11,906.7	3,540.6	41,026.5	3,600.0	52,933.1
Montana	90.9	8,125.3	6,553.6	85,145.8	6,644.4	93,271.0
Oregon	2,255.9	13,572.7	6,985.5	48,026.1	9,241.4	61,598.7
Washington	25.0	310.7	4,438.4	42,383.1	4,463.4	42,693.8
Wyoming	3.1	17,600.0	15.3	44,743.0	18.4	62,343.0
Total	[3] 2,434.3	51,515.3	[3] 21,533.3	261,324.4	[3] 23,967.6	312,839.7

[1] Includes all BLM acres.

[2] Includes noxious weeds that threaten BLM lands.

[3] It should be noted that not all acres affected with noxious weeds need to be treated.

SPREAD OF NOXIOUS PLANTS

Senator MCCLURE. I think we're all getting more and more concerned about the spread of noxious plants and the fact that we're not keeping up with that need. It's an expanding need.

Mr. BURFORD. It's my personal opinion that that's a much greater problem than overgrazing has ever been. I think we're losing more forage to noxious weeds and more moisture in the ground than to any problems caused by concentrations, even perhaps of horses.

Senator McClure. I know that the Forest Service is limited in its ability to treat those acres because of the ninth circuit court of appeals ban on herbicides. I assume you're similarly impaired; is that correct?

Mr. Burford. Yes; it is.

Senator McClure. Do you have any initiatives that we should pursue? For example, is the BLM authorized to make grants to local weed control districts or to States for noxious plant control?

Mr. Burford. We're cooperating with the States and counties on our noxious weed programs at all times. We do not have a grant program.

RECREATION MANAGEMENT

Senator McClure. With respect to recreation, we've received complaints that some recreation sites have been closed or mothballed. Could you provide for the record a list of closed sites and a justification for that action?

Mr. Burford. Yes, sir; we will do that.

Senator McClure. Also can you provide a cost estimate for keeping those sites open?

Mr. Burford. Yes, sir.

[The information follows:]

Recreation Sites Closed or Mothballed

The following sites have been closed or are likely to be closed in fiscal year 1985 due to high maintenance costs relative to use or vandalism problems:

Site name	Type of use	Cost to reopen	Annual maintenance
California:			
Douglas City	Campground	$5,000	$21,000
Junction City	Campground	5,000	13,000
Idaho:			
Wood River	ORV use area	10,000	2,000
Colorado:			
Five Points	Day use, picnic		22,000
Pot Holes/Dolores	Campground, picnic	175,000	20,000
Anvil Point	Campground, picnic, view point		9,000
Oregon:[1]			
Snively Hot Springs	Campground, picnic		6,500
Utah:			
Birch Creek	Campground	10,000	2,000
McMillan Springs	Campground	15,000	5,000
Lonesome Beaver	Campground	16,000	6,000
San Rafael	Campground	59,000	4,000
Cedar Mountain	Day use	3,000	2,000
Big Bend	Campground	95,000	4,000
Total		393,000	116,500

[1] An additional 23 sites with an annual estimated maintenance cost of $147,000 are under consideration for mothballing; however, no final decisions have been made.

CADASTRAL SURVEY

Senator McClure. As usual, you're proposing a reduction in the Cadastral Survey Program. The reduction for Alaska is $1,800,000, or 14 percent, and for the lower 48 States $963,000 or 9 percent. As we understand it, the Alaska survey workload is 25 percent original surveys and 75 percent special surveys, whereas other States is about 3 percent original surveys and 92 percent resurveys, with 5 percent special surveys. Isn't it more important to do the original surveys for Alaska than to do resurveys for other areas?

Mr. BURFORD. I'm not sure that it is, Senator. In your neighboring State of Wyoming a recent survey has turned up some very bad work which was done on the original survey. This will probably cause a lot of court suits and will make it hard to determine oil royalties as well as the location of the surface of that land; and we may find that there are places that we really do need to do some resurveys.

Senator MCCLURE. I'm sure that would be true for some areas, particularly where there's heavy resource recovery, mineral extraction primarily, whether oil and gas or coal; but I don't believe that's where the resurveys are all being done.

Mr. BURFORD. No; that's not where they are all being done.

Senator MCCLURE. One of the reasons for concern in Alaska must be that it affects the opportunities for the native corporations to make their land selections under the Alaska Lands Act. They can't make selections if they are hampered by the lack of survey, and there's a deadline for the corporations to act. We're inhibiting the opportunity for Alaskan Natives to exercise their rights under that act, are we not?

Mr. BURFORD. We have processed more of those native claims selections in the last 4 years than have been processed in approximately 60 years before that. But it is completing the survey work needed to confirm title to those selections where much still needs to be done. We are trying to get ahead of that curve.

Senator MCCLURE. How long will it take to meet those land selection requirements at the current funding rate?

Mr. PETTY. It will be in the next century, at any rate, before we're going to get all the survey work done.

Senator MCCLURE. What's the deadline for their land selection?

Mr. PETTY. I think it's in 1994 for the State of Alaska.

Senator MCCLURE. They have to make their selections and make certain corporate decisions with respect to the lands by that date?

Mr. PETTY. The big problem is native allotments, and that's the question of the natives and their——

Senator MCCLURE. How much money would it require in fiscal years 1986, 1987, 1988, 1989 to meet the 1994 date?

Mr. BURFORD. I think we'd have to do some calculations. We will do that.

Senator MCCLURE. Would you do that, please?

Mr. BURFORD. Yes, sir.

[The information follows:]

FUNDS REQUIRED TO COMPLETE ALASKA SURVEYS

Title to lands in Alaska go through two stages, title transfer and title confirmation. Both the State of Alaska and Alaska Native corporations have been authorized by Congress to receive title to Federal lands prior to survey. This differs substantially from land transfers in the Continental United States where survey is required prior to land transfer. In Alaska, over 75 percent of the State and native selected land title grants have been conveyed by the Bureau.

The State of Alaska has until 1994 to complete its selections. The cadastral survey workgroup workload committee of the Alaska Land Use Commission estimates that nearly $600 million in today's dollars will be needed to complete the survey work for ANCSA lands, State selections, and ANILCA lands. At the current funding level, it will take approximately 45 years to complete all Alaska survey requirements. In the interim, BLM will continue to issue tentative patents and interim conveyances which carry full use and privileges and are, in effect, the same as patents. Cadastral survey will be targeted using the window concept to enhance accomplishments of confirmed titles.

MEETING STATE DEADLINES

Mr. BURFORD. Yes, sir; Mr. Petty says $15 million is a round figure.

Senator MCCLURE. Per year?

Mr. PETTY. Per year.

Senator MCCLURE. Would that meet the needs of the States in making their selections?

Mr. PETTY. The State of Alaska says at that rate of expenditure based on today's costs it would take $15 million a year to meet the deadlines they have to meet.

Senator MCCLURE. Would that meet the State's selection requirements as well?

Mr. PETTY. Yes; it would.

FOREST SERVICE/BLM INTERCHANGE

Senator MCCLURE. We hear a lot of comments these days on the Forest Service/BLM land interchange proposal. I understand that you've requested $1,820,000 relating to the interchange proposal, not including any costs relating to O&C land. What kinds of expenses will you meet with the $1,820,000 requested?

Mr. BURFORD. The $1,820,000 will cover implementation costs, some moving costs for employees, relocation expenses, administrative costs, costs of consolidation of offices.

Senator MCCLURE. I wonder if you could break that out into the expenditures by activity, particularly with reference to the kind of restriction I understand the House Appropriations subcommittee has included in the supplemental appropriations bill now pending. As I understand it, they said that their language would restrict the expenditure of funds to planning activities and not permit expenditure on implementation activities. I would like to get a picture of what that would do to what you plan to do and what dollar impact that would have.

[The information follows:]

IMPACT OF HOUSE APPROPRIATIONS SUBCOMMITTEE LANGUAGE ON FOREST SERVICE/BLM INTERCHANGE

Managerial level officials within BLM have been the major contributors to the development of the plans for the interchange program in fiscal year 1985. Management input and related costs are generally included in all of the BLM's minerals, lands, resource management, and administrative programs and are usually in the form of providing program planning, oversight, and coordination. Implementation of the interchange is expected to have an effect on most, if not all, programs within BLM. Therefore, planning costs in fiscal year 1985 are being borne by those programs to which program directives and management input is normally charged.

BLM will not take any steps to implement the interchange in fiscal year 1985. Our main concern with the restriction included by the House in fiscal year 1985 supplemental appropriations bill is that it might be interpreted as prohibiting the BLM and the Forest Service from taking actions which we have been doing for many years or which have merit in their own right, apart from the interchange proposal. We would also want to ensure that we have the ability to develop a complete analysis and legislative proposal.

EFFECT OF RESTRICTIVE LANGUAGE ON INTERCHANGE IN FISCAL YEAR 1986

Mr. BURFORD. Of course that restriction is on this fiscal year, 1985, and this figure is reflected in the 1986 budget.

Senator MCCLURE. You don't think they would have any effect, even though you would not have any actions during 1985 beyond that——

Mr. BURFORD. I'll have to check that and see.

Senator MCCLURE. If you could also give me an estimate with respect to what the similar provision might do if enacted for 1986.

Mr. BURFORD. Some of that money is in Forest Service implementation costs and some is in the Forest Service budget, too.

[The information follows:]

EFFECT OF RESTRICTIVE LANGUAGE ON INTERCHANGE IN FISCAL YEAR 1986

All planning for the interchange is expected to be completed in fiscal year 1985, excluding any further planning required by congressional changes to jurisdictional boundaries or management responsibilities now proposed in the interchange. The funds budgeted in fiscal year 1986 are for interchange implementation costs, which are expected to be incurred after authorization legislation is passed. No implementation would begin in fiscal year 1986 until authorizing legislation was passed.

NATIONAL ACADEMY OF SCIENCES KNOWN GEOLOGICAL STRUCTURE CONTRACT

Senator MCCLURE. Senator Bumpers?

Senator BUMPERS. Senator, I think we're going to have a rollcall vote very shortly.

Mr. Burford, how much is BLM paying NAS to do the study on defining a known geological structure?

Mr. BURFORD. That contract is for $235,000. We also have another consultant which is reviewing the actual KGS work. That's Keplinger Consultants, Inc., a geological firm. We have a contract with them for I think $350,000.

Senator BUMPERS. Every time I offer my competitive leasing bill on the floor the Department goes from $10 to $35 for an application fee or from $35 to $75, or they require somebody to put up a bond. You're not going to use the fact that there's 9 months left on this study to defeat another bill of mine, are you?

Mr. BURFORD. I've never offered an amendment to a bill of yours in my life.

Senator BUMPERS. I'm sorry?

Mr. BURFORD. I've never proposed any amendments to your bill.

Senator BUMPERS. You never had to. I know that BLM would never let a contract to NAS to determine for them what a known geological structure is so they could have something to hang their hat on. They have never done that in the past, and I know they are not going to do that now.

SIMO PROGRAM

Mr. BURFORD. We understand each other, Senator. I would say that the Secretary of the Interior has asked the Under Secretary to study the entire SIMO Leasing Program and make any suggestions she feels are proper. That study is going on at the present time and her findings on the program will probably be out in 30 to 60 days. She is studying your bill, Senator Bumpers.

Senator BUMPERS. Incidentally, I notice you had some good publicity out of this system in the March 25, 1985, Washington Post. I know that it wasn't very gratifying to see your name in the paper as having gone on the attack and intervened to get the tract put back in the lottery from the competitive leasing thing. You see I think you are probably as innocent as a newly ordained nun. But I just want to make a point that that's what's been happening with this program forever. This is just the last in a series of accusations that always crop up with a system that is not right and literally invites fraud and will from now on. We keep putting a band-aid here and there, and the system is as bad as it ever was.

KGS DETERMINATION

Yesterday, a panel of independent oil and gas associations testified before the House Interior Committee that BLM doesn't have the ability to decide what a known geological structure is and they suggested that it be put under the Minerals Management Service. Do you agree with that?

Mr. BURFORD. No; I don't agree with that; and I could probably name the people who testified. But I would say that KGS determination is an inexact science at best, and that some of the indications we're getting from the private sector geologists we employed are that we are doing a reasonably correct job in that. I know that if you were a geologist and I were a geologist and we each set out to define a KGS using the same data base, we could very easily come out with very different acres because of our interpretations and backgrounds. It is not a perfect science, and almost anybody can argue for their own interpretation.

Senator BUMPERS. You're just fortifying what was said before the House Interior Committee yesterday. There's only one person in this whole universe who knows what a known geological structure is, and that's God. To try to pretend that we can come up with something definitive—that's what wildcatting is all about. That's what oil and gas exploration is all about: Trying to find oil. And for us to try to say where oil can be found before a hole is drilled defies everything that we have known for 100 years about oil and gas.

Mr. BURFORD. Senator, we don't make an attempt to define a KGS until there's at least one hole in the ground. According to the Mineral Leasing Act and the interpretation of KGS, we cannot attempt to define those KGS's until they have been drilled. There's still wildcat property——

Senator BUMPERS. It seems to me that's a very compelling argument for abolishing the present system. If 10 people are hot after a tract of land, the eighth circuit court said in the *Texas Oil & Gas* case that competitive interest ought to be a factor. Don't you agree with that?

Mr. BURFORD. I'm not sure I agree entirely with that court's opinion.

Senator BUMPERS. Why else would 10 people be out after a tract of land unless there was something hot under it? Are you going to say that ought to be put in the lottery because it's not a known geological structure because there's never been anything drilled there; and, therefore, we're only entitled to $1 an acre for it?

Mr. BURFORD. No; I don't know that that's necessarily true. But I have had enough experience to know that there can be 10 people hot after a prospect; and I would point to the Mukluk well on the North Slope which cost one company in competition with six or eight others several hundred million dollars to obtain that prospect, and it was as dry as the bottom of this floor.

Senator BUMPERS. I'm not saying there's oil there. I'm saying if you have 10 people competing for it, it has competitive interest. Do you think that simply because you can't say for certain that it will be productive, it ought to be put into the lottery?

Mr. BURFORD. I think that in——

Senator BUMPERS. You have people panting to give you $1,000 an acre, and you say no: "I can't do that because that's not a known geological structure. We have to let you have it for $1 an acre through the lottery." Does that make any sense to you?

Mr. BURFORD. If you look at the total figures on that system—I would refer you to the GAO report done at the request of Representative Udall, in which the GAO concluded that in practically all instances the Government was obtaining, through the simultaneous system, a fair price for most of the land. And it referred specifically to——

Senator BUMPERS. I think the District of Columbia is happy with what they are getting out of their lottery system.

OIL AND GAS LOTTERY SYSTEM

Mr. BURFORD. There are some economists who have studied the system who think if we ran a true lottery that we could really make a lot of money for the Government that way, but——

Senator BUMPERS. You're running a true lottery. What's the difference?

Mr. BURFORD. By a true lottery, they mean no limitation on the number of entries you or I could make to that lottery. In other words, if you wanted to buy 10,000 tickets, you could. We do not allow that. We allow only one entry per individual.

Senator BUMPERS. If we can't go to a competitive system, and if a true lottery is the next best alternative, then I would consider a true lottery. We might at least get close to fair market value. But any kind of lottery may be illegal.

Well, let me make one or two points. Mo Udall for the first time now has said it's time to bring this fraud to an end; that's what he said yesterday in the House. And this is the first time Mo has been willing to do that, so I'm hoping that will be enough to at least get it passed in the House. Now, Secretary Hodel has written to me in response to a letter I wrote him about the 33,000-acre Texas Oil & Gas lease. As you know, the Supreme Court denied cert, so that land is subject to leasing right now.

Mr. BURFORD. Yes; I realize that.

Senator BUMPERS. I told Secretary Hodel that I was not in a great rush to lease it because it's not going to bring as much now as it would sometime down the road. Have you seen the letter he wrote me?

Mr. BURFORD. Yes, sir; I have.

APPEAL OF *TEXAS OIL & GAS CO.* CASE

Senator BUMPERS. Here's what he said. He said the decision doesn't "remove all the controversy from this issue and may not be consistent with the views of courts in other circuits." How is it in variance with any other circuit? He says "circuits," plural.

Mr. BURFORD. I think there's an appeal in front of the D.C. circuit. I think I'll defer to Bob Lawton.

Mr. LAWTON. Yes; Texas has an appeal with the D.C. circuit court on the original decision, because they said they had a right to the lease. That has not been signed.

Senator BUMPERS. Are you talking about the case against Cecil Andrus?

Mr. BURFORD. Yes; that's the case.

Senator BUMPERS. The court has already heard that.

Mr. BURFORD. There's one appeal still——

Senator BUMPERS. Texas Oil & Gas went to court the other day in what can only be described as a frivolous lawsuit, opened this up again to prolong the loss of that lease, and obviously the Secretary has fallen for that. As far as I know there are no inconsistencies. Incidentally, the case against Cecil Andrus and the case the Supreme Court decided are two entirely different cases.

Mr. BURFORD. Yes; one was in this court here, and one was in the Arkansas court.

Senator BUMPERS. It was in the eighth circuit court in St. Louis. That's the one the Supreme Court denied cert on.

Mr. BURFORD. But there's an appeal in this circuit here, in the D.C. circuit. And I'll get you a complete rundown on that.

Senator BUMPERS. He also says that "Additionally, I believe it prudent to insure that all interested parties have an opportunity to express their preference." Does that include me? Do I get to express a preference, or is that just Texas Oil & Gas? I know what their preference is. What does that mean? They don't go to court and lose a lawsuit only to be told that they still have a preference. What is the preference?

Mr. BURFORD. The matter of the simultaneous oil and gas leasing system or the entire leasing system of Federal lands is under study in the Under Secretary's office at the present time, and I think that study will be completed within the next 30 to 60 days. I would invite you to submit your preference if you would like to, to the Under Secretary's office; and I'm sure that she would consider it.

Senator BUMPERS. If this appeal is still pending before the court of appeals in the circuit, what does he mean when he says here that "Texas Oil & Gas has returned to court to demand the enforcement of the decision by the U.S. Court of Appeals for the District of Columbia"? If that case is still pending why would they go back to enforce the decision of that court?

Mr. BURFORD. I'll have to look that up. I'll check the letter——

Senator BUMPERS. That case was decided so long ago, Mr. Burford, that I've forgotten about it.

Mr. LAWTON. The D.C. court, in a separate suit, instructed the then Secretary of the Interior, Cecil Andrus, to issue the leases in question.

Senator BUMPERS. That's right. And the circuit for the District after that.

Mr. LAWTON. And that's what they are coming back to ask this court——

ENFORCEMENT OF COURT DECISION

Senator BUMPERS. They are asking for the enforcement of the original decision. I know that, but what is the appeal now before the circuit?

Mr. LAWTON. They have asked the district court to enforce their earlier decision. It's not based on an appeal, it's a request to fulfill the court decision.

Senator BUMPERS. If they lose that and file a lawsuit someplace else, are we going to wait forever on this land? Is that the policy: As long as they have a lawsuit pending, we can't lease? Why don't you lease land and ask them to bring an injunction against you to keep you from leasing it?

Mr. BURFORD. I think when the new Secretary makes a decision as to which way he wants to go, he will go that way whether the case is on appeal or not.

Senator BUMPERS. I have immense respect for Secretary Hodel, and I think we're going to get along well depending on how this comes out.

He has honored my request not to issue any more leases on the Ouachita, and I appreciate that. If you continue leasing land for $1 an acre when land is bringing from $150,000 to $200,000 an acre, you're costing people in my State hundreds of thousands of dollars. I appreciate his saying he won't issue any more noncompetitive leases down there.

Let me just close. I have been through this too many times. I am sick of listening to myself.

Mr. BURFORD. If it's for my benefit, Senator, I can do without it.

Senator BUMPERS. I'm doing it for the poor folks of Arkansas who are getting cheated out of millions and millions of dollars. I cannot believe—I consider this the shame of the Nation. I consider it a fraud and a scam and a real shame, a blight on this country; and I cannot believe that I continue to have to fight this battle to eliminate something that is as egregiously wrong and inequitable as this is. And I know why I'm having to fight the battle. We all know why. We all know I haven't been able to win this battle, and that just makes it even that much more tragic.

I have some questions I would like to submit for the record, Mr. Chairman.

ADDITIONAL COMMITTEE QUESTIONS

Senator MCCLURE. The bells have indicated that there's a rollcall vote commencing on the floor of the Senate, and in view of that I'll submit the balance of my questions for response in writing. The requests of Senator Bumpers and others of the committee will also be submitted for the record. I want to thank you for your appearance today, and I look forward to the rest of the responses for the record.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

1985 and 1986 Budget Reductions

Question: Where would you eliminate the 158 headquarters and administrative positions? Do any of these savings assume enactment of legislation (such as the FS/BLM interchange proposal)?

Answer: The reduction of 158 full-time equivalents (FTE's) in FY 1986 does not require legislation nor are they related to adjustments which would result from the FS/BLM interchange proposal.

Fifty-seven FTE's would be reduced from overhead. The remaining 101 FTE savings are expected by reducing 17 from contracting, 13 from consolidation of mail and small purchasing functions, 4 from data management, 47 from streamlining of policies, procedures, and functions, and 20 from improved administrative ratios for personnel and procurement staffing. Of these 158 FTE's, 51 would be reduced from the Washington Office; and the remaining 107 would be reduced from the BLM State Offices, the Boise Interagency Fire Center, and the Denver Service Center tables of organization.

Question: Your proposal anticipates savings of $1,906,000 in headquarters and state office programs. Do you have any idea at this time how many staff would be cut in a state such as Idaho?

Answer: The $1,906,000 is a part of the $5,414,000 anticipated savings from all management initiatives in FY 1986. We estimate that one position would be cut from a State such as Idaho as part of the $1,906,000 reduction for overhead.

Question: Would you provide for the record a summary of your 1985 and 1986 proposed reductions with as much explanation as you may have to substantiate such a proposal?

Answer: Management initiatives taken in FY 1985 and those proposed for FY 1986 will result in FY 1986 savings totaling $6,862,000. Of this amount, $5,414,000 will come from reductions in the following areas:

Contracting: Efficiency will be improved by contracting some rangeland monitoring with universities and contracting with State and Indian tribes to perform certain oil and gas activities.

Consolidation: Functions such as small purchases may be combined into one office in towns with 2 or more offices, e.g., the Boise Interagency Fire Center (BIFC) and the Idaho State Office, both located in Boise, Idaho.

Data Information: Savings will result from intrabureau consolidations in acquisition and management of ADP technology.

Streamline Policies, Procedures and Functions: Redundant forms and reports will be eliminated or automated. The number of assistant area managers and associate district managers will be reduced. Also, the number of program analyst positions in the Washington Office will be reduced.

Improve Administrative Ratios: Personnel and procurement office staffing will be reduced throughout BLM.

Other Deficit Reductions: Reductions in travel, public affairs activities and service contracts are also planned.

Reduction of Headquarters and State Offices: Reductions in overhead organizations in the Washington and State Offices will occur.

In addition, $1,235,000 in savings will be derived from a continuation of the grade bulge reduction begun in FY 1985; and $213,000 in savings will result from a netting of the proposed FY 1984 pay cut with the FY 1985 pay increase.

Question: Also, I note that the House Appropriations Subcommittee has proposed Section 2901 rescissions of $6,201,000 for the Bureau in 1985, including a rescission of $2,901,000 proposed for vehicles. What does this leave in the base for vehicles in 1985?

Answer: The $2,951,000 proposed for Section 2901 rescission by the House Appropriations Subcommittee is the Working Capital Fund portion of the reduction proposed in the motor vehicle category. In addition $611,000 was proposed from the Management of Lands and Resources appropriation and $248,000 from the Oregon and California Grant Lands appropriation. The sum of these proposed rescissions would leave approximately $16.7 million in the base for motor vehicles in FY 1985.

Question: Would you also provide an analysis of the impact of that action within the next week or so? It may have been a reasonable rescission proposal when made, but as you know, events often overtake the budget process. If the rescission is not a reasonable proposal at this time, we should know that before we mark-up the supplemental on June 6.

Answer: Steps have already been taken to adjust for the reduction. For example, the replacement schedule of Bureau-owned vehicles was extended by two years and 20,000 miles. The fleet was also reduced by 311 units. Through the use of economy measures, such as pooling trips of field employees, this reduction can be accomplished without serious impairment of our ability to carry out program responsibilities. However, delayed replacement of the units will reduce the revenue to the Working Capital Fund from vehicle sales as well as reducing vehicle reliability. Maintenance costs are projected to rise as the vehicles are retained longer. However, the extent of these offsetting costs and their relationship to savings will not be clear for a year or more.

Oil and Gas Leasing

Question: As I understand it, one reason that the Department reduced its estimate of recoverable reserves is that recent exploration efforts have been largely unsuccessful. Apparently, dry hole after dry hole persuaded some that there was no oil there. What has been happening to the rate of finds in onshore leases -- is the rate of success up or down in recent years?

Answer: Between 1979 and 1984 the nationwide success rate for all onshore wells remained fairly constant, ranging from 78 to 80 percent success for development wells and from 28 to 30 percent success for exploratory wells. For Federal and Indian leases during the same period, the success rate for development wells has been above 81 percent. The success rate for exploratory wells has also been above the nationwide average ranging from a high success rate of 55 percent in 1983 to a low success rate of 27 percent in 1980. In 1984 the success rate for exploratory wells on Federal and Indian leases was 53 percent.

Question: Largely as a result of The Federal Oil and Gas Royalty Management Act (FOGRMA) of 1982, the Bureau is required to inspect annually a number of leases which produce or are expected to produce significant quantities of oil and gas. You are requesting an increase of 17 FTE and $700,000 in 1986 to increase inspections. What is the current number of inspectors on the rolls now? According to your justifications (p. 43), this increase will accommodate about 90% of the high priority inspections expected in 1986. How much of an increase would be required to accommodate 100% of the high priority needs? Why shouldn't we try to get all of these needs met?

Answer: As of May 1, 1985, 117 inspectors were employed by BLM. An estimated additional $1,500,000 over the base would permit us to complete all high priority inspections if we were able to promptly hire and train new inspectors. We believe that the Bureau can absorb a limited number of inspectors each year. As our inspectors gain experience, their productivity increases; and this should limit the number of additional inspectors that we need to hire in the future. Also, the Bureau has requested funds in the FY 1986 Budget to expand the use of cooperative agreements under Section 202 of FOGRMA. Expanded use of agreements with States and tribal governments should provide additional inspection capability which can supplement and/or substitute for some portion of the BLM inspection workforce.

Question: Do we recover revenues through these inspections? Will they pay for themselves?

Answer: It is impossible to quantify the amount of revenue recovered as a result of BLM's inspection activities. The additional revenues recovered as a result of identifying incidents of noncompliance represents only part of the revenue recovery effect of BLM's inspections. One of the principal goals of the inspection program is to gain industry self-compliance so that the inspection process can evolve into an oversight/certification of compliance effort. Actual inspection, or the high potential for an inspection, increases the likelihood that an operation will be in compliance, thereby ensuring that the Government will have an accurate basis for royalty payment and that the Federal and Indian land and mineral resources are appropriately protected.

Question: Do we have a backlog of these inspections at the current time? According to your workload table on page 42, the number of inspections will remain at 30,000 in 1985 and 1986. Why doesn't this workload indicator go up in 1986?

Answer: Our base funded program for 1986 will permit the same 30,000 inspections to be completed as will be completed in FY 1985. If our proposal to increase funding by $700,000 is adopted, the Bureau will be able to complete an additional 3,000 inspections in FY 1986.

Question: If the average cost of these FTEs remains at $26,000 in 1986, you would need about $450,000 to cover your personnel costs, instead of the $700,000 you have requested. What will you do with the remaining $250,000?

Answer: The average personnel compensation and benefit cost in this program is about $33,000 per FTE (see FY 1986 Justifications, page BLM-45), for 17 FTE's. This would amount to about $560,000 for inspection personnel, which includes some amounts for overtime work. The remaining funds will be used for inspector equipment (including safety equipment and meters), supplies, computer time, travel, motor vehicle use and helicopter rental. Our inspection and enforcement program is dependent on computer assistance for recordkeeping and linking to MMS's data systems for royalty management. Also, many leases are located in remote areas which requires our inspectors to perform overnight travel. We utilize helicopter rentals which are highly cost effective means of travel because they permit us to inspect more leases in a single day.

Question: You are also proposing an increase of $600,000 and 11 FTEs in 1986 to increase the number of KGS (Known Geological Structures) classifications. We provided an increase of $500,000 for this activity in 1985. Do we still have a backlog in this area? How much of a backlog do we have?

Answer: As of May 22, 1985, BLM State offices reported 1,188 KGS determinations pending. Approximately 40 percent of these have been assigned highest priority because the lands involved are currently being reviewed for possible noncompetitive leasing. Another 23 percent have been assigned second priority; that is, the tracts are in areas where there is new well completion activity or where geologic interpretations are being modified, but where there is no current demand for leasing. The remainder are in areas with little, if any, current drilling activity or leasing interest.

The classification of lands for oil and gas leasing requires constant revision as new wells continue to be drilled and, if oil or gas is discovered, completed for production. These new discoveries generate data which require expert geologic interpretation to determine their impact on KGS boundaries. In some areas of Federal oil and gas resources, there is a constant need for new interpretations because of the magnitude of industry drilling activity and discoveries.

The Bureau's objective is to process first and second priority KGS determinations on a "pipeline" basis. BLM currently estimates that, in order to meet this objective, approximately 1,300 KGS determinations must be processed in FY 1986. If this pace cannot be met, there will continue to be a number of high priority pending KGS determinations that cannot be processed on a "pipeline" basis. Neither competitive nor noncompetitive leasing can take place in an area as long as a KGS determination is pending.

Question: What has been done with our 1985 add-on -- how many additional determinations were made?

Answer: We anticipate that the funds provided in FY 1985 will permit the completion of an additional 160 KGS determinations by the end of the fiscal year.

Question: What is the status of the National Academy of Sciences contract, which was to investigate the definition of KGSs?

Answer: The contract was issued to the National Academy of Sciences in September 1984. The panel which will conduct the investigation of the definition of KGS had its first meeting in January 1985 and is in the process of working on the study. The contract requires that a final report be issued by March 25, 1986. No interim report is required. It is our expectation that the report will be completed ahead of schedule.

Question: Will all of the $600,000 be used for personnel costs or are there other items contemplated by your proposal? What kinds of other things are included?

Answer: Much of the increase will be used to pay personnel. However, some of the increase will be used for the acquisition of data needed in KGS analysis. Data on new well completions must be purchased from commercial vendors and is quite expensive. Some funds will also be used to purchase equipment, supplies and computer time.

Question: Are we still legally required to define KGSs on the basis of geology?

Answer: The Mineral Leasing Act of 1920, as amended, requires that leases must be issued competitively in "known geological structures of a producing oil or gas field," and noncompetitively elsewhere. The determination of a KGS is made on the basis of geology.

Question: Do we have areas of proven reserves that geologically do not meet our definitions?

Answer: All areas of proven reserves are within KGS's.

Question: How much money is in the base for handling post-lease adjustments and operator proposals? According to your justifications, you already have a backlog of these actions to handle. At the requested funding level, how long will it take to eliminate the backlog and get current?

Answer: We believe that we will be nearly current with operator proposals by the end of FY 1986. Almost 90 percent of applications for permits to drill are processed within 30 days of receipt. The other operator proposals deal primarily with production facilities where delays are often not as critical.

Processing post-lease adjustments or assignments costs the Bureau about $2.5 million annually. We are looking at ways to streamline the process through regulatory changes. If this proves feasible and we receive the funding requested for FY 1986, the backlog will be significantly reduced by the end of FY 1986.

Question: You are proposing an increase of $777,000 and 4 FTE to initiate a number of cooperative agreements in 1985 and 1986 in order to increase the number of inspections of State and Indian leases. The personnel costs will amount to about $100,000, if our calculations are accurate. What do you plan to do with the remaining amount of the increase?

Answer: Of the $777,000 requested for cooperative agreements for FY 1985-86, we anticipate that approximately $600,000 will be used to fund agreements. At this time, there are at least 15 States/tribes which have indicated interest in cooperative agreements. The remaining funds will be used for compensation and related operating expenses of the 4 FTE workyears, to administer the program, provide training, monitor implementation of the agreements, and provide program direction.

Question: Why don't you have more agreements in place?

Answer: Interest by the States and Indian tribes in agreements has been limited because funding is not yet available, and the regulations for implementing cooperative agreements have not been published.

Question: Do you have any unfunded cooperative agreements in place?

Answer: We have unfunded agreements with the State of Wyoming, the Jicarilla-Apache Indian Tribe and the Shoshone-Arapahoe Tribes.

Question: How many competitive oil and gas tracts do you plan to offer in 1986? How many did you offer in 1984 and 1985?

Answer: We offered 1,400 tracts in FY 1984 and plan to offer 1,500 in FY 1985 and 1,700 tracts in FY 1986.

Question: Are additional funds required in 1987 and beyond to continue this trend?

Answer: Our preliminary estimate is that up to 2,400 tracts could be offered competitively in FY 1987. However, we have not yet prepared funding requirements for FY 1987 programs.

Question: We understand that the Department is in the process of assessing the current onshore oil and gas leasing system. When does the Secretary plan to make a recommendation?

Answer: The Secretary has established a work group headed by the Under Secretary, which will review the system and prepare recommendations for revisions where applicable. It is anticipated that the Secretary will present the Department's position on changes in the current system in late June 1985.

Question: As we interpret your revenue data, (p. 11) there has been a significant drop in the last 2 years. Why is that?

Answer: The drop in noncompetitive filing fees is due to the fact that there were no SIMO filing periods from October 1983 to August 1984. With the resumption of the SIMO filing periods in August 1984, the regulations have required that SIMO applications be accompanied by submission of one year's advance rental at the time of filing as well as the $75 filing fee. This requirement for advance rental payment has sharply reduced the number of applications received and has also led to an overall reduction in filing fee revenues.

Question: You are proposing a reduction of $500,000 (or -16%) in the geothermal program (p. 47). According to your justifications, this reduction reflects a slightly lower level of industry demand for leases. About 100 fewer inspections will be undertaken in 1986. Will this reduction impair the ability of the Bureau to supervise operations of geothermal leases on Federal lands? What will we lose as a result of fewer inspections?

Answer: As the geothermal program matures, there is less need to make inspections than when the program was new and relatively little was known about the impacts of geothermal development. Therefore, we feel comfortable in reducing the number of inspections while maintaining a visible and effective inspection and enforcement presence for geothermal leases.

Coal Leasing

Question: According to your justifications (p. 58), you anticipate holding one regional sale and preparing two activity plans in 1986. Where will those be?

Answer: We anticipate that activity planning will resume and be completed in the two regions that were nearing completion when activity planning ceased in FY 1984. Those regions are Southern Appalachian (Alabama) and Uinta-Southwestern Utah. We also anticipate one regional sale in FY 1986, most likely in the Southern Appalachian Region. The decision on whether or not a sale actually will be held will be made by the Secretary at a future time, based on the recommendations of the regional coal team and the State Governor.

Question: You are proposing an increase of $850,000 and 12 FTE in 1986 for the coal program. Is any of the increase related to the anticipated activity plans or the regional coal sale? How much?

Answer: Some $157,000 of the proposed increase will be used to implement changes in the coal leasing procedures, to complete two activity plans, and to hold the regional sale. Of this amount, $60,000 will be committed to the regional sale if a decision is made to hold the sale. The remaining $97,000 will be devoted primarily to completing the activity plans. However, the precise amount involved may vary depending upon the Secretary's final decisions (expected this fall) on the coal leasing program.

Question: When the Secretary makes final decisions on the coal leasing program in late 1985, is it possible that adjustments will have to be made in your 1986 estimate? Do you anticipate submitting a budget amendment or, perhaps, a supplemental request?

Answer: We will be assessing funding requirements once the Secretary makes his final decisions. Workload adjustments within the currently proposed budget level would be relied upon, to the extent possible, to avoid having to request any supplemental funding.

Question: Last year, we included an increase of about $1 million for drilling to gather additional resource data. How much of that has been obligated in 1985?

Answer: Of the $1 million add-on for drilling in FY 1985, $559,000 has been allocated for projects in Utah, Colorado, Indiana, New Mexico, and Wyoming. In the coming weeks, the Bureau will examine the need for additional drilling. Because the Secretary has initiated changes in the coal leasing program as recommended by the Linowes Commission and the OTA report, it is anticipated that other priorities in the coal program will be identified that will require further supportive data to implement the intended changes.

Question: How would you characterize the use of that money -- has it added significantly to our knowledge of the coal resource and do we anticipate that continuing that program will result in increased minimum bid rates or additional competitive bids at some point in the future? Do you anticipate that revenues to the government will be increased by more than the $1 million?

Answer: The drilling is undertaken to ensure that the lease tracts can be made available for leasing and to encourage leasing. Without the drilling there would not be enough data to determine the fair market value of the tracts. Overall, it appears that the bonus bids themselves, not to mention the royalties from production, greatly exceed the cost of exploration. However, the Department's concern is not just the cost-effectiveness of exploration, but also adequate data to support the tract-selection process and identification of any environmental problems which may be encountered.

Question: Have you retained that additional drilling money in the base program for FY 1986?

Answer: Yes, we have retained the same level of funding for drilling work in our FY 1986 Budget base. Tentative plans are to continue exploration drilling projects in Colorado, Utah, and Wyoming. Additional drilling is planned for the Powder River Basin in Wyoming and Montana and in the San Juan Coal Basin in New Mexico.

Question: Your workload table on p. 56 estimates that the number of emergency sales will increase from 3 in 1984 and 2 in 1985 to 20 in 1986. Why is that?

Answer: Regional leasing has not yet resumed and will not until the recommendations of the Linowes Commission and of the Office of Technology Assessment are fully integrated into the Federal coal management program. In the meantime, Federal coal continues to be needed to avoid bypass situations and to maintain some companies' contractural obligations to deliver coal, whether regional leasing exists or not. Therefore, the number of emergency sales can be expected to increase during periods when there are no regional sales.

In FY 1985 to date there have already been seven emergency lease sales. Four more are expected before the end of FY 1985. This represents an increase of eight such sales over FY 1984. The increase is directly attributable to the absence of any regional lease sales in FY 1985.

Question: Are emergency sales generating fair market value to the government? Can you demonstrate that by tract?

Answer: The Department believes that the Government is receiving fair market value for the coal leased through emergency lease sales. Each tract is appraised by the Department before the lease sale is held. No bid which is less than the post-sale estimate of tract value is accepted. The following table gives emergency lease sale data on sales held since December 1983:

Applicant/Tract Name	State	Bonus Paid ($/acre)
North American (North Beulah)	North Dakota	$110
River Processing	Kentucky	$894
Mitchell & Neeley (Long Creek)	Alabama	$100
U.S. Steel Corporation	Colorado	$101
Getty Minerals Marketing	Colorado	$250

Bids have been accepted on four other emergency lease bypass tracts, but the leases have not been issued. The accepted bids for these tracts are equal to or greater than the post-sale estimates of tract values.

The emergency bypass tracts for which bids were accepted but leases have not been issued are as follows:

Applicant/Tract Name	State	Bonus Paid ($/acre)
North River Energy (Scottera)	Alabama	$100
Hot Rocks Coal Company	Alabama	$100
U.S. Fuel Company	Utah	$101
Pittsburg and Midway Coal Company	Wyoming	$910

Question: Your workload table also shows that the number of preference right lease applications (PRLAs) will increase from 53 in 1985 to 67 in 1986. How many does this leave? Is this schedule still current?

Answer: As of May 20, 1985, there were 124 coal PRLA's outstanding. The workload table was intended to show the number of coal PRLA's which would be processed to a decision point - either issuance of a preference right lease or rejection of the application for failure to demonstrate the presence of coal in commercial quantities - during fiscal years 1985 and 1986.

The schedule shown in the workload table has been revised. Of the 53 PRLA's shown to be completed in FY 1985, 13 have been withdrawn by the applicants; and processing of the remaining 40 has been deferred until 1986 while review of the Department's PRLA processing procedures and policies is being conducted. Completion of the review is anticipated by the end of FY 1985. Until the review is completed, revised plans and policies cannot be adopted.

Question: As we understand that current situation, the Department now has to do an EIS for each PRLA or for groups of PRLAs. What is your current plan for PRLA processing in 1985 and 1986?

Answer: With some exceptions, the Department has committed itself to preparing EIS's for the remaining 124 PRLA's. Processing of these coal PRLA's will fully resume once the Department's review of PRLA policies and procedures is concluded.

Question: The number of inspections is scheduled to increase more than 100% between 1985 and 1986 (from 2,400 to 5,028). Why is that? How can that be accomplished in one year? What will that cost us?

Answer: The large increase in coal operations inspections from FY 1985 to FY 1986 represents the first full year of a shift to increased emphasis on BLM post-lease operations activities initiated in FY 1985. This workload measure represents all activities associated with field verification of compliance with and enforcement of applicable laws, regulations, and terms and conditions of approved leases, licenses and permits for exploration, mining, reclamation, resource recovery and protection, and abandonment plans. By 1986, it is anticipated that 381 Federal coal leases will be subject to the Federal Coal Leasing Amendments Act (FCLAA) of 1976, an increase of 50 leases readjusted during FY 1986.

The Bureau is now preparing a strategy and guidelines to implement new, comprehensive inspection and enforcement (I&E) procedures for coal and other solid minerals. The new procedures will specify additional inspection and enforcement actions required to ensure a uniform, nationally consistent I&E program.

We anticipate this new program will expand the I&E workload in BLM field offices. This workload increase will be accommodated by an overall shift of program emphasis from pre-leasing to post-leasing functions. Many lower priority tasks associated with pre-leasing, which are not reflected in our budget tables, are being curtailed to make possible the required increase in inspection and enforcement and other coal operations actions.

Question: What do we get in return?

Answer: One measure of the "return" we get on increased I&E activity is the assurance that proper royalty payments are made to the Federal Government and to Indian tribes. The Government realizes approximately $60,000,000 annually from such royalties. BLM is required by law to ensure that proper and adequate records are maintained; therefore, sufficient production verifications (i.e., inspection and enforcement actions) must be undertaken.

I&E actions are also a measure of the level of activity in the enforcement of the diligent development and continued operations requirements of FCLAA. This is a BLM responsibility which, when fulfilled, helps to ensure a stable supply of coal to help supply the Nation's energy needs.

Question: If no regional sales are made in FY 1985 and none are scheduled for FY 1986, could we reduce your budget estimate? How much savings is possible?

Answer: The "regional sale" unit of accomplishment represents the cost of holding the sale. As such, it constitutes only a fraction of the total cost of the leasing process. The bulk of the costs are incurred in requisite pre-leasing tasks which have been completed or will commence in the near future. Cancelling the sale at this point in the leasing process would "save" approximately $60,000, but would cause the Government to forfeit any return on the substantial time and money already invested in the numerous pre-leasing tasks leading up to the sale.

Oil Shale/Tar Sands

Question: No change is proposed in your oil shale/tar sands budget for FY 1986. Has there been a significant reduction in commercial development activities at the prototype sites? Why shouldn't we reduce funding accordingly?

Answer: No changes are proposed because several workloads previously expected to be completed in FY 1985 will be continued into FY 1986. These workloads are associated with continuing the implementation of the Combined Hydrocarbon Leasing (CHL) Act of 1981. As many as 30 lease conversions which were originally expected to be completed in FY 1985 cannot be completed until FY 1986. The FY 1986 workload also includes a significant increase in CHL leasing plans prepared. This is a relatively high-cost and time-consuming unit of work. It can be accomplished because program emphasis and funding will be shifted, as necessary, from oil shale-related I&E actions.

Oil shale monitoring activities will continue to be necessary in FY 1986 to ensure that environmental, engineering, and economic studies in progress on the prototype tracts are followed through to completion.

Question: What type of inspection and compliance work will be required in 1986? Was it also required in 1985?

Answer: Inspection and compliance work currently being performed and planned for FY 1986 consists of production verification, compliance checks to ensure that environmental standards are met, and periodic examinations of mining plans and proposed mining plans.

Geology, Energy, and Minerals (GEM) Assessments

Question: You are proposing to increase the mining law administration program by $197,000 (+3%) in 1986. Your justification (p. 66) says that the additional funding will be used to increase the number of validity examinations and the number of GEM assessments. However, your workload table shows GEM assessments remaining at 200,000 acres in 1986, the same as in 1985. Why is there no increase in FY 1986?

Answer: The FY 1986 Base funding level for the Mining Law Administration program was reduced from the FY 1985 enacted level by $181,000 reflecting the effects of required base adjustments. This reduction resulted in the elimination from the FY 1986 base program of the capability to perform the planned workload associated with GEM assessments on 200,000 acres of lands overlying Federal minerals. The FY 1986 Budget estimate level restores the funding necessary to accomplish this work as well as to maintain the number of validity examinations completed at the FY 1985 level.

Question: Do you have a backlog of GEM assessments that need to be completed?

Answer: No, we do not.

Rights of Way

Question: What is the distinction between costs that are recoverable by "reasonable" costs and other application costs that are subject to a fee schedule? What would happen to those projects currently subject to a fee schedule if we were to enact your proposed language?

Answer: The Bureau expects to issue new cost recovery regulations early in FY 1986 for rights-of-way applications filed under the Federal Land Policy and Management Act (FLPMA). In these regulations, a fee schedule with built-in allowances for reasonability will be used for cases under $5,000. These allowances will include costs for services performed which are not to the exclusive benefit of the applicant. Enactment of the proposed language would result in full cost recovery for these cases -- an increase in recovered processing costs of about 10 percent. It would also put FLPMA rights-of-way casework on the same cost recovery basis as applications filed under the provisions of the Mineral Leasing Act.

Question: How much have you spent developing the cost recovery regulations and the manual instructions? Maybe we'll have to reduce your 1986 allowance by that much or else we'll be dealing with this proposal again in 1987.

Answer: Over the past two years the Bureau has expended approximately $150,000 in developing regulations and defending them in cost recovery litigation actions involving an estimated $40 million in fees paid to the Federal Government. The FLPMA cost recovery regulations and manual instructions will be completed in early FY 1986. Periodic reviews of the fee schedule will be necessary to balance receipts with processing costs.

Desert Land Entry Cases

Question: What is the current status of the Idaho State Supreme Court decision? Has it been appealed?

Answer: On October 25, 1984, the Governor and the Attorney General of Idaho signed a settlement agreement with the Idaho Power Company. The agreement eliminated the need for the State of Idaho to appeal the Idaho Supreme Court's decision.

Question: Your justification states that only those Desert Land Entry Cases inside the decision area that must be rejected can be processed. Why is that?

Answer: The Bureau of Land Management in Idaho had been processing desert land entry (DLE) applications but conditioning the allowance of entries which otherwise met the requirements of the Desert Land Act (DLA), on the availability of water. The Idaho Department of Water Resources (IDWR) requested BLM to refrain from processing the applications with the condition of water availability. This was because IDWR's priority areas for water allocation did not necessarily correspond with the areas in which BLM was processing DLE applications. BLM has agreed to coordinate agricultural disposals with the IDWR, i.e., BLM will process those applications that otherwise meet the requirements of the DLA after the IDWR adjudicates new water rights in those affected areas. The effect of the agreement is that the only cases BLM can process in the Swan Falls decision area are those that must be rejected because they do not meet the basic requirements of the DLA.

It should be pointed out that this applies to those applications that involve the adjudication of new water right allocations within the Swan Falls decision area. BLM does process those few DLE applications within the Swan Falls area which involve the utilization of existing and/or excess private water and which otherwise meet the requirements of the DLA.

Question: How much of the $500,000 desert land entry 1985 add-on is retained in the 1986 budget? What will be done with it?

Answer: The entire $500,000 was retained in the FY 1986 base and will be used to support continued efforts in DLE application processing.

Question: You are proposing a reduction of $330,000 in the lower 48 realty program. One of the justifications for the decrease is that ALMRS (the Automated Land and Mineral Record System) will save money. Is ALMRS operational yet? Are any of ALMRS's subsystems fully operational yet?

Answer: To fully understand ALMRS, one must recognize that the system will be comprised of a number of large data bases merged into an overall interactive system. The comprehensive, fully integrated ALMRS is in the design stage and, therefore, is not operational. However, one of its component data bases called "case recordation" became operational in 1983. This component was originally designed to track oil and gas cases but has been expanded to track lands and realty cases as well. This data base now contains over 267,000 cases, and more than 300,000 transactions (cases entered, edited, queried, etc.) occur each month. Benefits include:

A. Benefits to the using public are as follows:

1. Inquiries can be answered approximately three times faster.
2. Inquiries can now be made about pending cases or existing leases at any office with a terminal, whereas previously inquiries could be made only at the specific State Office handling the case.

B. BLM - increased efficiency of case tracking and processing results from:

1. The time required to enter, correct, and locate case information has been substantially reduced.
2. The system tracks the location of the case file; while previously considerable time was spent looking for these files.
3. We have significantly reduced the paperwork that is sent between offices.
4. As we get terminals in the public rooms, we no longer need to file or print the serial register page in hard copy.
5. Workload and management reporting information that was previously difficult, if not impossible, to acquire is now often easily acquired and is more accurate.

Another data base that will be incorporated into the complete ALMRS is "legal land description." It will eventually include data from 46,000 townships. These data are currently being collected by all States. By the end of FY 1985, we project that data from 14,000 townships will have been collected. These data can be used to improve case processing.

A third data base that must be incorporated into the complete system is "status" data. We estimate that it will take 5-7 years to complete this effort. Presently, status data is being collected by contract in New Mexico and Arizona (pilot States) and in-house in Utah. An evaluation will be performed in FY 1985 to determine which data collection method is the most cost effective, given the level of quality desired and the project implementation schedule.

Question: Would you provide for the record a complete justification for ALMRS, including life cycle costs?

Answer: A complete justification for ALMRS was included in the FY 1984 BLM Budget Justifications (at pp. BLM-81 and BLM-141 and 142), in the FY 1985 BLM Budget Justifications (at pp. BLM-76 and

BLM-145 and 146), and in the FY 1986 BLM Budget Justifications (at pp. BLM-81 and 82, and BLM-143 to 145). The Report of the Conference Committee on the FY 1984 Interior Appropriations Act directed the Bureau to submit a complete life cycle cost analysis for ALMRS with its FY 1985 Budget. An initial life cycle cost analysis was provided to the Committee on February 28, 1984. However, we have contracted with the Federal Computer Performance Evaluation and Simulation Center (FEDSIM), an Air Force subsidiary that performs systems analysis for Federal agencies on a cost-reimbursable basis, to perform a more detailed, comprehensive life cycle management analysis and documentation. When the FEDSIM report is completed in late 1985, copies will be submitted to the House and Senate Committees.

Alaska Realty Program

Question: You are proposing to reduce the number of Native allotment conveyances from 1,100 in 1985 to 850 in 1986, for a savings of $1,000,000. You are also proposing a reduction in State conveyances from 4.2 million acres to 3.4 million acres.

At the end of FY1985, your justification (p. 85) estimates that you will have completed 80% of Native conveyances and 60% of State conveyances. Is it time for these programs to begin to slow because we are into the last stages?

Answer: Land conveyance in Alaska is a two-step process requiring both title transfer and title confirmation following survey. Most Federal land in Alaska is unsurveyed. Because of this, Congress authorized issuance of title transfer documents to the Native corporations (Interim Conveyance) and to the State of Alaska (Tentative Approval) which can be granted before survey. Final entitlement calculation and specific exclusion of inholdings would take place after survey when a confirming patent would be issued.

Commencing in FY 1986, the rate of title transfer for lands will continue to slow while the completion of survey and issuance of title confirming patents will increase. Title transfers to the State and Native corporations will be at the 80 percent point by the end of FY 1986. These transfers will be largely by Tentative Approval and Interim Conveyance. Only 20 percent of the lands transferred will have a survey and patent.

The slowing of the title transfer process reflects both a shift of initiative for the remaining land transfers and a secondary workload of land entitlements which await survey. For the past three years, the State of Alaska has emphasized smaller but "higher quality" areas for its conveyances. These smaller land areas often are more difficult and complex to adjudicate than the largely unpopulated "block lands" transferred previously. Under a court settlement, the State now identifies in an annual request the lands it wants transferred. The State has asked for increased patent in these priority areas rather than large title transfer acreage. Native corporations have received much of the lands selected around villages. Under the conveyance selection procedures, the village corporations must now identify and place a priority on lands being provided under regional corporation land allotments. Once BLM has these priorities, it can transfer additional land. Finally, until survey, a small percentage of land is "held back" to avoid an overconveyance of land.

To ensure an increase in patents, BLM has adopted a Patent Plan Process. This is a coordinated effort between BLM realty and survey staffs to accelerate title confirmation. The plan calls for the identification of a geographic area or "window" with a concentrated effort to complete all needed adjudication of inholdings in the area to ensure complete survey and patent.

Question: Could we continue to increase the State conveyances through contracting? How about Native conveyances?

Answer: State and Native title confirmation and patent can be increased through additional contracting for field survey and plat production. The $13 million Alaska survey program in FY 1985 supports approximately $4 million of contract work.

Sufficient Native allotments have been field examined and adjudicated to the stage of survey to allow the Patent Plan Process to proceed. The field program to examine Native allotments will place emphasis on examining concentrated parcels, leaving isolated and problem parcels to be examined in later years.

Withdrawals

Question: The Federal Land Policy and Management Act of 1976 (FLPMA) requires a review of essentially all withdrawals by 1991. We are half-way to our deadline -- how are we doing towards eliminating the cases we need to review?

Answer: The Bureau anticipates completion of the withdrawal review program as required under section 204(1) of FLPMA by 1991. In FY 1984, BLM and the other holding agencies developed mutually approved schedules designed to complete review of other agency withdrawals by 1991.

Question: As we understand it, we have 5,845 withdrawals to do (p. 88); another 1,050 withdrawals for waterpower and water storage; land classification orders covering 160 million acres; and a number of Section 3(e) projects in Alaska.

However, you are proposing a reduction of $348,000 (-9%) in the withdrawal review program, justified on the basis that other agencies are not moving ahead rapidly. Will the reduction affect the number of BLM withdrawals reviewed?

Answer: The 9 percent reduction in our request for FY 1986 will not affect the number of BLM withdrawals reviewed.

Question: How about withdrawals with mineral potential?

Answer: The decrease in the number of cases to be reviewed in FY 1986 will not alter our priority of concentrating the review on areas with mineral potential as required by FLPMA. The decrease in classification review workload is planned for FY 1986 because we are nearing completion on these reviews.

Question: Why can't BLM fund some other agency reviews through a reimbursable program? How much could be done in that manner?

Answer: BLM believes that direct funding for other agency reviews, as opposed to reimbursable funding, is the most efficient method. Placing funding and expenditure accountability with the holding agencies helps ensure the other agency involvement and compliance with review schedules and places accountability on the holding agency, where it belongs.

Public Domain Forestry

Question: Why is it that you don't feel compelled by FLPMA to reduce the TSI inventories? Aren't you in violation of the law?

Answer: We are not in violation of the law. During the mid-1970's and early 1980's the Bureau was concentrating on management plans and environmental impact statements. This caused a shift in funds from on-the-ground forestry activities to this effort. Now that planning and EIS's are substantially complete for forestry, we are attempting to catch up on TSI work foregone during that period.

Question: What is the productivity class of the acres to be reforested or treated?

Answer: The productivity class ranges from Class II to Class V depending on species and locale. All of the areas to be treated are in our timber management base.

Question: Are the prescriptions economically justifiable?

Answer: When all factors are considered, including the growing and selling of fiber and the monetary and environmental losses that occur from not being able to harvest timber damaged by insects and diseases, the prescriptions are almost always economically justifiable.

Question: Are these low reforestation and TSI rates affecting allowable cut?

Answer: Not at the present time. We have instructed our field offices to carry out a balanced program between timber offered for sale and forest development activities, i.e., do not offer more timber for sale than can be supported with corresponding forest development activities. The backlogs of reforestation and TSI work might affect the next allowable cut computation if they are not treated by that time.

Question: At the proposed funding level, how long will it be before the Bureau gets current with its backlog of reforestation and TSI? How much would it cost to eliminate these backlogs?

Answer: Unfortunately, in the case of reforestation, funding levels are not easily equated to getting the job done. It often takes 3 years to get seedlings in the ground -- one year to gather the proper seed and another two years to grow the seedlings and plant them. Seedling maintenance to ensure survival may require another treatment within 3 years after planting. Generally, reforestation backlogs are old, denuded areas which are not adequately stocked with established seedlings. A backlog plantation may be subject to juvenile mortality up to five years after planting and cannot be removed from the backlog status until success is ensured.

As a result of the additional funding provided in FY 1985, BLM has found that our original estimates of backlog acreage are not totally accurate. We anticipate having better data by the end of the fiscal year and believe that making a projection of the cost and time required to eliminate the backlog could be done at that time. However, TSI backlog can be reduced at a much more certain rate. In our report to Congress we showed a time schedule of 8 years with an estimated cost of $888,000 per year to eliminate the TSI backlog. That continues to be our best estimate regarding TSI.

Question: What is the most efficient rate of elimination?

Answer: The additional funding in FY 1985 has provided the Bureau with the ability to take a closer on-the-ground look at what is actually needed in terms of seeds, seedlings, site preparation, protection and maintenance to eliminate the backlog. Once we have analyzed this information, we will be better able to determine the most efficient rate at which to eliminate the backlog.

Question: Does the Bureau need additional nursery capacity?

Answer: No, we will contract with private nurseries for any additional nursery requirements that are outside the Forest Service capability.

Wild Horses and Burros

Question: What is the status of the population research funded for an additional $1.0 million in FY 1985 through the National Academy of Sciences? Could you provide a list of projects and schedules?

Answer: To implement the research required in the FY 1985 appropriation, a contract was signed with the National Academy of Sciences (NAS) for $150,000 to obtain its oversight, evaluation, and interpretation of individual research projects. An NAS Committee was convened in April 1985 and met with Bureau officials to decide research topics. Statements of work have been drafted for three studies:

1. Mare-focused fertility control,
2. Paternity determination and stallion contraception, and
3. Population and cost projections.

Awarding of contracts for the individual studies is scheduled for this September. It is anticipated that at least two of the studies will require several years to complete.

The NAS Committee has also expressed a desire to expand its role beyond the field of research and become involved, in an advisory capacity, with policy matters and management issues concerning wild horses.

Grazing

Question: I'm sure that you know that it is not likely that the grazing fee will go up that much in one year. Regardless of the outcome of the debate on grazing fees or grazing formulas, the current formula, and I assume any future formula, will have a limit on the amount of change in any one year. The current limit is 25% per year, which if continued would limit the 1986 fee to a maximum of $1.69. How much would be available through the Range Betterment Fund at that rate for on-the-ground improvements?

Answer: The Range Betterment Fund is based on 50 percent of the receipts from grazing on public lands and grazing and mineral leasing on Bankhead-Jones lands. If the grazing fee were increased from $1.35 to $1.69 per AUM, the amount available through the Range Betterment Fund in FY 1987 would total an estimated $11.4 million. That total is made up of an estimated $2 million from mineral receipts and $9.4 million from grazing fee receipts. This represents an increase of about $1.4 million over the minimum amount ($10 million) provided for in Section 6(b) of PRIA, which is our current funding level.

Soil and Water

Question: How much is BLM expending on the Acid Precipitation Program in '84, '85, and '86?

Answer: BLM participates in the National Acid Precipitation Assessment Program operating 13 monitoring stations in key Western locations as part of the National Trends Network.

Expenditures in FY 1984 were $80,000; and planned expenditures for FY 1985 and FY 1986 are $78,000 for each year.

Question: The Committee increased your hazardous materials management program by $1,300,000 last year. Do you have a list of sites where those funds have been spent? What has been done with that add-on?

Answer: The $1.3 million level comprises the entire hazardous materials management program of the Bureau. A formal program was established in FY 1984, but funding was not specifically identified until FY 1985. In FY 1985, BLM has used the funds for:

1) Evaluating methods of inventorying public lands for hazardous waste sites and upgrading the inventory data on hazardous waste sites;

2) Identifying nearly 200 actual and potential hazardous waste sites on the public lands;

3) Sending notifications and requests for action to parties responsible for such sites when they can be identified;

4) Initiating preliminary assessments and site investigations on 30 sites where no viable responsible party could be found. Additionally, a contract for preparation of preliminary site assessments and site investigations on the sites listed in Attachment 3 is planned

to be let in the summer of 1985. Contract work will be initiated on as many sites as possible this fiscal year based on hazard priorities, where known, and field scheduling.

5) Responding to spill and "midnight" dumping emergency incidents;

6) Initiating several programmatic efforts to control future costs, risks and liabilities from hazardous materials.

7) Developing and implementing an employee safety training program;

8) Developing Bureau procedures for implementing the Resource Conservation and Recovery Act, as amended, and the Comprehensive Environmental Response, Compensation, and Liability Act; and

9) Preparing numerous preliminary natural resources surveys assessing whether resource damage has occurred from hazardous waste releases.

Question: Could you provide for the record a list by states of all known hazardous waste sites and a cleanup schedule, with estimated costs?

Answer: Attachment 4 is a list by BLM State Office of the known and potential hazardous waste sites on Bureau-administered public lands. As we are currently in the initial stages of assessment, no estimated costs are available. The schedule will be based on risk priorities established on a Bureauwide basis in the assessment process.

Question: Is funding included in your 1986 estimate for the cleanup of any major hazardous sites? Where, or why not?

Answer: If assessment and site investigation can be completed on sites identified as high risk, we intend to initiate at least one remedial investigation and feasibility study. BLM intends to proceed in the future with the clean up of those sites for which no viable responsible party can be found.

Question: You are proposing a decrease of $2,850,000 (-17%) in the soil and water program, to be accomplished by reducing the number of watershed activity plans and the number of watershed improvements constructed. Aren't these improvements valuable in terms of multiple benefits, such as wildlife, soil and water quality, etc.? Can you separate the reduction into plans and improvements? What will happen if we restrict the planning program?

Answer: Although the primary objectives of these improvements and treatments are to protect or rehabilitate the land from accelerated erosion, provide protection from floods and soil loss, and reduce sedimentation, side benefits such as renewal of wildlife habitat, providing additional water sources for foraging animals, and improving the vegetative resource also commonly occur.

The proposed $2,850,000 reduction is comprised of a $280,000 reduction in watershed activity planning and a $2,570,000 reduction in watershed improvement work.

The Bureau has already developed activity plans for most of the critical watershed problem areas on public land. Thus, the Bureau believes the highest priority in this program is the maintenance of existing facilities rather than the construction of new ones. Activity planning will still continue (35 are proposed in FY 1986) but at a reduced rate. This will prevent a large backlog of unimplemented plans from developing and facilitate targeting new developments in the areas with greatest need.

Wildlife

Question: Last year, the Committee included $300,000 as a special habitat improvement and management initiative, to be matched by Non-Federal money. Has that program been successful in stimulating private interest in cooperative wildlife programs with BLM?

Answer: The program has been very successful in stimulating private interest in cooperative desert bighorn management programs. The BLM has obtained pledges of $305,000 in non-Federal funds, labor, equipment, and material to be used for cooperative efforts to improve desert bighorn sheep habitat in FY 1985.

Question: Has the Bureau had inquiries from outside groups urging that the $300,000 be retained in the budget and be applied to a different species in 1986? What kinds of groups have expressed an interest?

Answer: We have had inquiries about retaining funds for managing bighorn sheep. These have been in the form of urging the BLM to continue the cooperative habitat improvement programs initiated in FY 1985. The major groups involved are the Desert Bighorn Council, the Foundation for North American Wild Sheep, and the Arizona Desert Bighorn Sheep Society. To date, no organizations have contacted us regarding development of a similar program for other species.

Question: You are also planning to reduce habitat management plans from 63 in 1985 to 38 in 1986 (-40%). Don't these habitat management plans constitute the basic level of BLM support for wildlife species?

Answer: Habitat management plans (HMP's) are a fundamental aspect of BLM's wildlife management program. Nearly 300 HMP's have been prepared to date and are in various stages of implementation. We will continue to prepare new HMP's for high priority areas. Preparation of new HMP's for lower priority areas can be deferred without causing significant adverse effects to the wildlife habitat resource. This will allow us to put more emphasis on completing projects for existing high priority HMP's that are not yet fully implemented.

Question: What would it cost to fully fund the development and implementation of 63 habitat management plans in 1986?

Answer: Preparation of HMP's averages $7,200 per plan. Therefore, we estimate the cost of preparing 63 new HMP's in FY 1986 would be about $450,000. The President's Budget already includes

$275,000 for 38 planned HMP's. Implementation of plans prepared in FY 1986 would not begin until FY 1987, so there would be no implementation costs for the new plans in FY 1986. Implementation usually occurs in stages over a period of several years, depending on the size of the area, the complexity of the habitats, and the work involved.

Question: Another budget proposal is to reduce the threatened and endangered species program by $1,250,000 in 1986. How much does that leave in the base program?

Answer: The base program of $2,650,000 is adequate to meet our statutory responsibilities and duties.

Question: Would you please prepare a table for the record showing the distribution by threatened and endangered species and by state for the FY 1985 funding level, and would you indicate how much is for listing, recovery, monitoring, etc?

Answer: We do not collect information on expenditure of funds by individual plant or animal species. The following table presents information on how FY 1985 funds have been spent through April 30, 1985, in the threatened and endangered (T/E) species program.

	$ (000)	%
Inventory	$ 267	18
Research & Development	54	4
Planning	12	1
Environmental Impact Statements	27	2
Activity Plan Preparation	92	6
Plan Monitoring	326	22
Plan Implementation	230	15
Program Management	490	32
Total	$1,498	100

Distribution of T/E funds by State is as follows:

Alaska	$126,000
Arizona	397,000
California	630,000
Colorado	379,000
Idaho	237,000
Montana	383,000
Nevada	376,000
New Mexico	188,000
Oregon	219,000
Utah	430,000
Wyoming	375,000
Eastern States	41,000
Washington Office, Phoenix Training Center, and Denver Service Center	175,000
Total	$3,956,000

Cultural Resources Management

Question: We are concerned that the Bureau is not providing sufficient protection to cultural resources on public lands. We added $1,000,000 to this program in 1985. What were you able to do with the increase?

Answer: A large portion of the funding increase was directed toward priority protection projects in a number of States. This included work in Utah to deter serious vandalism problems occurring there; planning and protection work in the San Juan Basin, New Mexico and southwestern Colorado; and on sites on the Upper Missouri River in Montana. A smaller portion of the increase was also used for funding data automation work in a number of States.

Question: You are proposing a $350,000 reduction (-7%) in 1986, which will have the result of eliminating 7 cultural resource plans and 7 major protection projects. Additionally, the number of natural history and paleontological sites being managed will decrease by 3 and 5 sites respectively.

What is happening to the cultural resources on Bureau land? For example, are the Anasazi settlements adequately protected?

Answer: Anasazi sites are spread over a wide area in the southwestern United States. A major portion of BLM's cultural resources program is devoted to administering important sites like these on a long-term basis. Recently, considerable effort has been focused on reducing vandalism problems in southern Utah and managing the Anasazi sites designated by the Chaco Cultural Protection Act of 1980 in New Mexico.

The BLM has been directly involved in the preparation of the Federal Interagency Joint Management Plan for the Chacoan Cultural Sites in New Mexico. We have initiated a number of protective measures for the 7 designated Chacoan sites under BLM's administration including mapping to delineate site boundaries, stabilization, patrol, and surveillance.

While not receiving the same amount of media coverage as sites in Utah and not directly affected by the Chaco Cultural Protection Act, BLM-administered Anasazi sites located in Colorado are also receiving considerable management attention. In FY 1986, for example, the BLM's Anasazi Heritage Center will be opening as a research and interpretative facility for the region. The Center will store millions of artifacts recovered from areas including major Anasazi sites. Much of our long-range planning and protection efforts for the area will focus on the management of these collections.

Question: How many arrests and convictions have you had under the Archaeological Resources Protection Act of 1979? Under other statutes?

Answer: The following list indicates the number of persons charged with violating various Federal statutes related to archaeological resources, and the disposition of the cases.

Violation Cited	Number of Persons Charged	Disposition
Archaeological Resources Protection Act of 1979 (16 USC 470)	22	Convicted - 11 Not convicted - 1 Court Action Pending - 10
Antiquities Act (16 USC 433)	1	Court Action Pending
Theft of Government Property (18 USC 641)	4	Convicted - 4
Destruction of Government Property (18 USC 1341)	2	Convicted - 2
Willful Destruction of an Archaeological or Historic Resource (43 USC 8365)	2	Convicted - 2

Question: How many certified law enforcement agents does the Bureau have in total? Where are they located by state? What types of projects are they working on? How many are working on cultural resources protection?

Answer: The Bureau has 28 law enforcement special agent positions which are assigned to the following States:

Alaska - 1
Arizona - 2
California - 4
Colorado - 2
Eastern States - 2
Idaho - 1
Montana - 2
Nevada - 2
New Mexico - 2
Oregon - 3
Utah - 2
Wyoming - 2
BLM Headquarters Office - 3

Bureau special agents are delegated authority to enforce Federal laws and regulations pertaining to the use, management and development of the public lands and their resources. As Federal agents, BLM special agents provide a broad range of criminal investigative services as needed to correspond with the program priorities of the State offices to which they are assigned. These can include violations of the wild horse and burro act, theft of Government minerals and vegetative resources, timber theft, theft of antiquities and cultural resources, fraud against the Government, criminal trespass, illegal growing of marijuana on the public lands, etc.

All Bureau agents have authority and responsibility to protect cultural resources within the scope and authority of their law enforcement delegation. Violations are investigated as they are detected. Currently, three agents are working within Utah and Arizona almost entirely on cultural resource violations.

Question: Is vandalism your greatest problem or is it commercial operations?

Answer: A recent report prepared by the Governor's Task Force on Archaeological Preservation in the State of Utah points out that theft, rather than vandalism, is the primary reason for concern. It is not the weekend arrowhead collector, the report states, who is primarily responsible for the destruction of many of this country's valuable sites, but those individuals or organizations who totally destroy sites to remove artifacts for commercial gain. To this end, the Governor's Task Force recommends greater Federal and State cooperation, emphasis on law enforcement activities, and pressure on museums and their associations to refrain from obtaining illegally removed artifacts.

Question: How much is in your base program for cooperating with the Departmental archaeologist concerning automating the data base for archaeological projects? What is your judgment regarding a proposal from the Society for American Archaeology to test a prediction model for location of archaeological sites?

Answer: BLM has been working on site and survey automation projects for a number of years now. We estimate that BLM spends approximately $350,000 annually to encode site information that is used for general planning purposes and project clearances. The National Park Service's automated system is not designed to replace the vast amount of detailed information that we have already collected. Rather, we understand that its purpose is the tracking of general survey and report information collected from across the country. It is designed to supplement ongoing efforts and function more as an "index" for completed projects and surveys.

The BLM has no funding directly set aside to assist the NPS in the effort to build this data base. We have been reviewing the work for the proposed system and have offered suggestions and our assistance in its implementation. The BLM's cultural resources program funding is being used to develop an automated system that will consolidate information on permits issued under the Archaeological Resources Protection Act for work on public lands. We have discussed this system with the Office of the Departmental Consulting Archaeologist and have suggested that it might be adaptable for use on a wider Departmental basis.

BLM is preparing a technical report on the use of predictive models that is scheduled for publication in the fall of 1985. We feel that this document is the first comprehensive effort to address the issues surrounding the development and use of models. Early in the process, we discussed our proposal with representatives of the Society for American Archaeology. We found many of their comments extremely helpful during preparation of the report. It is important to note that this document is not a specific model, but rather a study of the use of models. It is based on information that has been collected from a wide variety of existing models, some successful, some not. We are anticipating that the volume will provide many useful tools that can be used by Federal agencies in developing professionally acceptable individual models for use in planning and project clearances.

Question: How many cooperative law enforcement agreements do we have with states or other Federal agents to protect cultural sites?

Answer: The Bureau currently has 50 law enforcement agreements with State and local law enforcement officials for the enforcement (by these agencies) of the laws and ordinances of such State or subdivision which assist in the administration and regulation of use and occupancy of the public lands. These agreements pertain to the enforcement of all relevant laws and ordinances and are not limited solely to the protection of cultural resources.

To address additional needs for protection of cultural resources, the number of BLM special agents assigned to each BLM State Office in the Four Corners area (Utah, Arizona, Colorado and New Mexico) was increased to two by transfers of agents already in the BLM from other State Offices. The Bureau is also participating in a task force operation with the Forest Service, National Park Service and local law enforcement officials which is being coordinated through the U.S. Attorney's Office for the District of Utah and is designed to enforce laws related to cultural resources.

Question: What is the best strategy for short-term and long-term protection of these sites?

Answer: Short-term protection needs are geared toward providing measures that alleviate an immediate threat to a particular site or area. Such work might include limited site stabilization, excavation, fencing, or patrol and surveillance that can be accomplished within a one-or two-year period. Sites or areas that warrant long-term protection usually require the preparation of a management plan. Such a plan would address the use of protective measures similar to those mentioned above, but in much greater detail over an extended period of time. However, to be truly effective, a long-term management program must also rely on the development of cooperative agreements with other Federal and local agencies, a good law enforcement program, use of volunteers, cooperation with private organizations, and public education efforts to inform the general public of the importance of these resource values.

Wilderness Management

Question: Please provide a brief status report for us on the wilderness study areas. How many areas are left to study? How many studies have been completed but had no further action taken?

Answer: Wilderness studies on 30 instant study areas have been completed, and recommendations have been forwarded to the Congress.

Of 729 BLM wilderness study areas (WSA's) covering about 23 million acres that are under review, 593 WSA's covering 18 million acres have been included in 60 draft wilderness environmental impact statements (EIS's). None of these draft EIS's has been filed as a final EIS, and none of the wilderness studies for these areas has been completed. Of the 18 million acres covered in these assessments, about 7 million acres have been deemed preliminarily suitable and released for survey by the Bureau of Mines or Geological Survey. The remaining 136 WSA's will be covered in 14 draft EIS's to be filed by the end of FY 1986.

In addition to the above, areas involved in the recent Sierra Club vs Watt decision could add as many as 296 additional WSA's covering 1.5 million acres to the BLM's wilderness review process.

Question: You are not proposing any increase in your wilderness management program in 1986 even though Congress added about 350,000 acres to the wilderness system in 1984. What kinds of activities will you need to undertake to bring these areas under management? At what cost? Could you provide a list by area of when the plan will be complete and when other actions (such as mapping and signing) will be complete?

Answer: Major activities required to manage designated wilderness areas include the following:

1. Legal boundary identification and mapping.
2. Extensive signing may be required.
3. A comprehensive management plan must be developed for each wilderness area.
4. Increased surveillance to meet the level of public interest in the area.
5. Validity exams of mining claims in wilderness areas are required
any time a plan of operation is filed.
6. In some cases it may be necessary to exchange for private and State inholdings.

The following table shows the proposed budget for each BLM wilderness area in FY 1986 and planned completion date for management plans and boundary identification (other activities are ongoing).

Proposed FY 1986 Wilderness Management Funding

State/Wilderness	$ (000)	Mgt. Plan & Boundary ID Complete (Fiscal Year)
Arizona		
Aravaipa Canyon	35	FY 1986
Cottonwood Point	10	FY 1987
Grand Wash Cliffs	25	FY 1987
Kanab Creek	15	FY 1987
Mt. Logan	10	FY 1987
Mt. Trumball	10	FY 1987
Paiute	35	FY 1987
Paria Canyon - Vermillion Cliffs	72	FY 1986
Beaver Dam Mountains	25	FY 1987
	237	
California		
Santa Lucia *	---	
Ishi	5	FY 1987
Machensa Mountain	5	FY 1987
Trinity Alps	30	FY 1987
Yolla Bolly-Middle Eel	30	FY 1987
	70	
Idaho		
River of No Return *	---	
Montana		
Bear Trap Canyon	90	FY 1986
New Mexico		
Bisti	40	FY 1986
De-Na-Zin	45	FY 1986
	85	
Oregon		
Hells Canyon *	---	
Oregon Islands	5	FY 1987
Table Rock	40	FY 1986
Wild Rogue *	---	
Juniper Dunes	55	FY 1986
	100	
Utah		
Beaver Dam Mountains	25	FY 1986
Paria Canyon - Vermillion Cliffs	40	FY 1986
	65	
	===	
Bureau Total	647	

* Management provided by USFS

Question: We have heard a number of complaints concerning the Bureau's Interim Management Policy for Wilderness Study Areas, especially as it relates to mineral leasing. We note that the Department's budget request continues a prohibition on funding for mineral leasing in BLM WSAs. Is it the Department's position that no leasing should occur in these areas? Would leasing necessarily impair or unnecessarily degrade the wilderness values in WSAs?

Answer: The proposed revisions to Section 308 of the General Provisions of the FY 1985 Interior Appropriations Act would allow the Secretary to protect Federal oil and gas resources but at the same time would protect the potential wilderness areas by limiting these leases to the subsurface resources. This limitation is intended to ensure that a lessee has no rights under the lease to use the surface. This limitation is further clarified by the proposed language which prohibits surface occupancy. The proposed language would allow directional drilling from outside the wilderness area for two reasons: (1) the lessee has the right under the lease to recover the oil and gas, and (2) recovery through the drainage well may not be the most efficient method and may result in the loss of Federal oil and gas.

The proposed oil and gas leasing revisions for subsurface drainage situations would not degrade the wilderness values since the leases would not allow surface occupancy.

Question: How is the Department trying to assess the mineral value of these areas during their studies?

Answer: Following the passage of FLPMA in 1976 BLM, in cooperation with the Bureau of Mines and U.S. Geological Survey (USGS) established procedures for the collection of mineral resource data to be used in the assessment of mineral values in WSA's. In 1981 BLM also applied GEM assessments to these areas. The GEM process examines existing data including technical reports and maps identifying mineral potential. This work continues as BLM, the Bureau of Mines and USGS periodically review the status and priorities of designated WSA's. The wilderness study packages submitted by the Secretary to the President and Congress contain the results of the detailed GEM assessments and mineral surveys.

Question: What does the Department plan to do with the valid existing mineral rights in wilderness areas established by Congress in 1984? Will we buy those rights?

Answer: Section 5 of the Wilderness Act provides authority for the exchange of State or privately owned lands and interests in wilderness areas for federally owned lands of approximately equal value in the same State. This section of the Act also provides that, subject to the appropriation of funds by Congress, privately owned land within wilderness areas may be acquired if the owner concurs or the acquisition is specifically authorized by Congress.

Each case would need to be assessed on its own merits and an evaluation of the mineral values settled on to the mutual agreement of all parties. The Department does not see a buyout of valid existing mineral rights as the only alternative. There would be potential opportunities for abuses if the buyout option were the only one pursued.

Question: Is the quality of your assessment as good as it might be had you had data available from mineral leasing activities?

Answer: The volume and reliability of data is always increased when an area is leased and where exploration activities have occurred. Leasing of an area is often indicative of interest; but actual exploration and production provide new information that often leads to a reevaluation of specific lands.

Question: If the Department's recommendations go to the President in October, 1991 (as scheduled in FLPMA), it will have been nine full years since the last mineral lease was issued in a BLM WSA. Considering the potential for advances in technology between now and then, do you believe that there is a significant risk that significant mineral resources will be locked into wilderness? What are we doing to prevent this occurrence?

Answer: BLM has used the GEM program to examine existing data with the initial priority given to designated WSA's. As a complement to the GEM program BLM and the Forest Service have coordinated their priority areas with the Bureau of Mines and USGS to improve the mineral resources data base using techniques designed to avoid impairment of the wilderness values of the WSA's.

Section 4(d) of the Wilderness Act requires survey of designated wilderness areas on a planned, recurring basis consistent with the concept of wilderness preservation by the USGS and the Bureau of Mines to determine the mineral values, if any, that may be present. The Act also provides that the results of such surveys be made available to the public and submitted to the President and Congress. If minerals are badly needed, the procedure in Section 3(e) of the Wilderness Act can be used to recommend to Congress that lands be removed from the National Wilderness Preservation System.

BLM has emphasized the importance of an adequate domestic mineral data base for the minerals industry. This emphasis has been enhanced by the development of the concept of the known mineral resource area (KMRA) which will map the location of significant mineral resources located through BLM's area of critical minerals potential (ACMP) program. These BLM programs focus on lands withdrawn and under consideration for withdrawal. The ACMP nominations and other resource data will provide BLM with the capability to make decisions on implementing KMRA's and providing Congress information on critical and strategic minerals associated with WSA's.

Question: Do you believe that the non-impairment standard (as implemented in the BLM's Interim Management Policy) is sufficient protection to minimize surface damage while mineral values are assessed via activities conducted under mineral leases? Including drilling?

Answer: Yes. The 43 CFR 3802 and 3809 regulations sufficiently provide for nonimpairment of WSA's. Additionally, language prohibiting leasing in BLM WSA's has been included in the Interior and Related Agencies Appropriations Acts for FY 1983, 1984, and 1985.

Recreation

Question: I understand that you are proposing an increase of $290,000 in the recreation management program, to supplement management of heavily used areas. I understand that one candidate for these increased funds would be Idaho's Birds of Prey Area.

How much additional funding would be provided to the Birds of Prey Area? For what purposes? Do you have need for a kiosk or other information facilities in the area? Could you provide a proposed distribution for the record?

Answer: The proposed $290,000 increase in the recreation management program is for supplementing the visitor services/use supervision for selected high use recreation sites.

The distribution for the proposed $290,000 increase for the recreation management program is as follows:

State	Site	Increase	FTE
Arizona	Lower Colorado River	$ 48,000	1
Idaho	Birds of Prey NA	48,000	1
Nevada	Red Rock Rec. Lands	97,000	1
Utah	Grand Gulch	97,000	2
Total		$290,000	5

As shown in the chart, the Snake River Birds of Prey Natural Area (SRBOPNA) is tentatively scheduled to receive $48,000 and one FTE to fund one ranger position (including equipment and initial training) to provide for visitor services, resource protection and enforcement.

There is one developed information area identified in the draft management plan for the SRBOPNA - Dedication Point Overlook - where an information kiosk/exhibit is planned. In addition, there are 4 other sites, 2 major and 2 minor, where narrative interpretive signing is identified.

Question: Last year, we included $150,000 for safety items at the Yaquina Head NSA, Oregon. Could you please provide us with a status report on actions taken to date and future plans?

Answer: The status information follows:

Work Completed

Area clean-up contract - Clean up entrance, 6 other areas, and the quarry equipment.

Work Underway

Area supervision - May through September.

Work To Be Completed

A. Road maintenance contract bids closed May 23, 1985 - to provide maintenance work from the main highway to Yaquina Head.

B. Vehicle barricade removal to be done in July with force account personnel.

C. Contract planned to be let in July 1985 - to construct a foot trail and an observation deck with railings.

D. Contract planned to be let in July 1985 - to install an entrance gate and a sign.

Fire Management

Question: Please provide a complete cost estimate for the Initial Attack Management System (IAM). How much has been spent so far? What kinds of costs are yet to be incurred?

Answer: The January 1984 estimate of costs to develop and install IAMS was $4.9 million. Of this amount, $1.95 million was appropriated in FY 1983 to implement Phase I of the system; and $1.4 million is requested in FY 1986 to begin implementation of Phase II. Phase I costs included purchase of the central computer system and related software, 21 remote graphic terminals and 9 remote automatic weather stations (RAWS's) and fuels mapping for 69 million acres.

FY 1986 funds will be used to purchase, install, and test 44 RAWS's and 22 remote interactive graphic terminals. FY 1986 funds will also be used for operation and maintenance and some set up costs such as telecommunications charges. After FY 1986, funds will be needed to purchase additional remote graphic terminals, RAWS's, and fuels mapping, and to incorporate and upgrade automatic lightning detection stations (ALDS) as part of the system.

The plans which provided the basis of the January 1984 cost estimate have recently been reviewed and revised within the Bureau based on the experience with Phase I. From this experience, it appears that to obtain maximum effectiveness from the IAM system the number of RAWS's and remote graphic terminals would have to be increased substantially above earlier plans. However, the requirements for this expanded system will require additional study as Phase II is implemented.

Provided below is a BLM-developed schedule of development and implementation costs necessary to establish the system:

IAMS Development and Implementation Costs
($000)

	Actual	Estimated Year of Completion		
	FY 1983	FY 1986	Outyears	Total
Phase I	1,950	---	---	1,950
Phase II	---	1,400	800	2,200
Phase III	---	---	2,495	2,495
Totals	1,950	1,400	3,295	6,645

Question: IAM is designed to work with a number of Remote Automatic Weather Stations (RAWS). Could you bring us up to date on the design, acquisition, and installation progress for the RAWS program and indicate the remaining project costs?

Answer: As discussed in the preceding answer, 53 of the 200 RAWS's identified in our original plans for IAMS will have been purchased and installed by the end of FY 1986. However, the Bureau's recent review indicates that 359 RAWS's may be required to obtain maximum effectiveness of the system. If so, an additional 306 RAWS's would have to be purchased and installed at an estimated cost of $2.8 million.

Question: What information can the Bureau provide to us concerning the National Weather Service's plan to reduce the level of fire weather and special forecast services in 1985? How does that affect the 1985 and 1986 fire management program?

Answer: It is our understanding that the National Weather Service (NWS) budget for fire weather and special forecast services was kept at the FY 1984 level for FY 1985, so the level of services will not be reduced.

We also understand that the NWS is proposing to reduce certain special forecast services in the FY 1986 Budget. From our discussions with NWS and OMB personnel, this reduction should not affect our basic wildfire suppression weather program. It is possible, however, that special forecast services for other fire management activities, such as prescribed burning, may not be available from the NWS in FY 1986. This would have a small impact on our FY 1986 program, but we may be able to obtain the necessary local meteorological interpretation for prescribed fire use from private services.

Planning

Question: How many Resource Management Plans (RMP's) will need to be done in total to meet the FLPMA planning requirements?

Answer: RMP's are normally prepared to cover the public lands in a resource area, the agency's smallest administrative subdivision. There are 152 resource areas in the Bureau. Currently, approximately 80 percent of the public lands are covered by an RMP or a valid management framework plan (MFP). MFP's are plans which meet the requirements of FLPMA in accordance with the provisions of the planning regulations (43 CFR 1610.8). Bureau policy is to replace existing plans only when they become inadequate for management purposes. Over time, all MFP's still in use will be replaced by RMP's. However, when this transition will be completed depends upon each individual MFP and associated management circumstances. Some MFP's may remain adequate for a number of years. All plan amendments, whether involving MFP's or RMP's, are done in accordance with FLPMA planning requirements.

Question: How many have been completed to date? How many are in progress? How many are yet to be initiated?

Answer: Currently 8 RMP's have been completed. Sixteen are currently at the Proposed RMP/Final EIS stage, and an additional 15 have been completed through the Draft RMP/EIS stage. An additional 20 RMP's are currently in the preliminary stages of preparation. We estimate starting 6 RMP's in FY 1986 and anticipate that this rate of new starts will probably continue in the outyears.

Data Management

Question: Your justification proposes a $376,000 increase over the 1986 base in the data management program. However, compared to the 1985 appropriations enacted to date, this is actually a reduction of $281,000 and 7 FTEs.

Please submit for the record a justification of the decrease and an explanation of the impact on the geographic information system program.

Answer: If the FY 1986 Estimate funding level is provided, BLM's geographic information system (GIS) will be maintained at essentially the FY 1985 level. If a lower level of funding is appropriated for this subactivity, BLM will be forced to take one or both of the following actions which will affect the GIS program: 1) reduce the level of our support to the development of "user-friendly" software tailored to BLM's GIS applications, and 2) reduce purchases of hardware necessary to support GIS implementation which was planned for installation in certain BLM State offices.

Cadastral Survey

Question: At the current funding rate, how long will it take to complete the State of Alaska selections? Will it be done by the year 2005? How much of an increase would it require in FY 1986 and outyears to meet that date?

Answer: We estimate a minimum of 40 years would be necessary to complete all the selections by the State of Alaska, along with the Native village and Regional Corporations at the 1985 funding level ($13.6 million). Forty years is, at best, an educated guess and is dependent upon a stable workload and established priorities. Such mandated surveys as the Alaska Railroad, various exchanges, and special request surveys such as the Pribilof Islands and Japonske Island have and will continue to impact the survey schedule.

The Bureau management believes that a program of $15 million per year would be an optimum level of effort using a good combination of contracted survey work and in-house personnel and maintaining acceptable quality standards.

Question: Could you provide for the record a complete status report on the Section 3(e) land selection problems in Alaska. How many developed Federal sites have been selected? How many conveyed? At what replacement cost?

Answer: There are several instances of Federal agencies recently building substantial improvements on lands not qualifying for retention in Federal ownership, such as the new hospital at Bethel. The other main issue is which Alaska Railroad lands were used by the Federal Government and are to be conveyed to the Alaska Railroad Corporation.

There are currently 300 Federal sites which have been selected by Native corporations and which require a Section 3(e) decision. Approximately 140 of the 300 sites have been processed. In a majority of the cases, a portion of the site was determined not to have been used by the Federal Government and the site was conveyed to the Native corporation.

Replacement cost information is not available. BLM determines which lands were used by the Federal Government between December 18, 1971, and December 18, 1974, and does not determine land value. The land conveyed may range from tundra, with low value, to situations such as the new hospital at Bethel with an estimated value of $60,000,000. The new hospital was built on lands not used between December 18, 1971 and December 18, 1974.

Firefighting and Rehabilitation

Question: You have not requested repayment of the $45 million cost incurred in 1984 for firefighting. What are you doing in 1985 to cover your current obligations for firefighting expenses? What are your obligations to date?

Answer: The FY 1986 Budget did request FY 1985 supplemental appropriations of $12.2 million to repay a portion of the funds borrowed to cover FY 1984 firefighting costs incurred by BLM and transferred from other accounts.

Funds to cover them were requested to be derived by a transfer from the National Park Service's Construction (Trust Fund) account.

Bureau	Appropriation Account	($ millions)
Bureau of Land Management	14X1116 Oregon and California Grant Lands	$ 3.0
Bureau of Land Management	14X5033 Land Acquisition	2.0
Fish and Wildlife Service	14X1612 Construction and Anadromous Fish	4.0
National Park Service	14X5035 Land Acquisition and State Assistance	3.2
	Total	$12.2

As of April 30, 1985, current obligations of approximately $12.1 million had been incurred, of which $11 million was for firefighting and presuppression and $1.1 million was for emergency rehabilitation of burned-over lands. However, the 1985 fire season is just starting and will reach full activity in the months of July, August and September. The Bureau has already used the $4,101,000 initial appropriation from the FY 1985 Interior Appropriations Act to pay for a portion of these current FY 1985 obligations. Current obligations that exceed the $4.1 million provided in the "Management of

Lands and Resources" appropriation, plus additional obligations that will be incurred through September 30, 1985, will be covered by a transfer of funds to BLM as authorized under Section 102 of the General Provisions of the FY 1985 Interior Appropriations Act. Funds to repay amounts transferred to BLM to cover FY 1985 firefighting costs will probably be requested in a supplemental appropriation after September 30, 1985.

Question: Please provide a complete statement as to source of funds for the record.

Answer: Sources of funds to be transferred to cover the FY 1985 firefighting and rehabilitation costs beyond the $4,101,000 that was appropriated to BLM in the FY 1985 Interior Appropriations Act have not yet been identified.

Resource Protection

Question : How much has BLM requested for ensuring that the public and BLM employees can use the public lands and not fear for their personal safety from illegal marijuana cultivators?

Answer: Part of the requested $1,000,000 increase for initial detection, control, and eradication of marijuana will be used to further develop the user safety and public awareness program, as well as employee safety training. Currently, special agents present safety seminars to the public and Bureau employees. During the cultivation and harvest season, visitors to BLM field offices (California) who intend to use public lands are warned of possible danger from cannabis growers.

As areas of cannabis growth are observed, they are eradicated, thereby reducing possible danger to the public and employees in those areas.

Question: How many acres has BLM essentially closed to public visitation?

Answer: BLM has not closed any acreage to the public. However, California field offices recommend against the use of approximately 40,000 acres of public land during the cannabis cultivation and harvest season.

Question: We are glad to see a $1,000,000 increase proposed for additional law enforcement activities relating to marijuana cultivation. How much assistance is DEA providing?

Answer: The primary recipients of DEA assistance are the State and local law enforcement agencies with whom we also cooperate. The Bureau receives benefits from the enhanced abilities of those organizations to address the cannabis problem in their jurisdictions and to assist the BLM in suppressing cannabis cultivation on public lands.

The DEA also coordinates the National Domestic Marijuana and Suppression Program which promotes information sharing and provides training, equipment, investigative and aircraft support to State and local law enforcement agencies. BLM participates in this major cooperative effort to eradicate cannabis growth and cultivation on Federal lands.

Question: Please provide for the record a copy of the Department's policy directive on the "Cannabis Reduction Program" and a thorough description of the overall Federal program. It is unacceptable that the public, Federal employees included, cannot safely visit the public lands without fear of injury.

Answer: A copy of the Department's "Cannabis Reduction Program" plan is attached (Attachment 5).

Transportation Maintenance

Question: Last year, the Committee provided an increase of $1,000,000 for additional road and bridge maintenance work. How much of that has been obligated to date? What is the schedule for the rest of it?

Answer: As of April 30, 1985, the Bureau had obligated $390,000 of the $1,000,000 increase. Our current plan is to have $680,000 obligated by June 30, and to have the entire $1,000,000 obligated by September 30.

Question: How much has been retained in the base for 1986?

Answer: The entire $1,000,000 is included in the base for FY 1986.

Question: Can you distribute the 1985 and 1986 program by state?

Answer: Distribution of the total of $3,454,000 provided for transportation maintenance for FY 1985 is as follows:

State	Amount
Alaska	$ 67,000
Arizona	322,000
California	317,000
Colorado	275,000
Idaho	312,000
Montana	313,000
Nevada	275,000
New Mexico	266,000
Oregon	438,000
Utah	336,000
Wyoming	371,000
Denver Service Center	44,000
Headquarters Office	46,000
Reserve for Deficit Reduction Act Rescission	72,000
Total	$3,454,000

At this time, we cannot distribute the FY 1986 program by State. The 1986 distribution will be allocated based on State and Bureau priorities which will be determined in September.

Building Maintenance

Question: Does the Bureau have a building maintenance tracking and scheduling system? How does it operate?

Answer: There is no Bureauwide building maintenance tracking and scheduling system. However, each State has its own version of such a system tailored to meet particular State requirements.

Question: How is it that one year, the justification says that the budget is adequate, but that other years the same funding level is not adequate? Is the building maintenance program driving the budget or is the budget establishing not only funding levels but levels of adequacy for the Bureau?

Answer: The adequacy of the budget from year to year is related to several factors such as the previous year's accomplishments, the acquisition of any additional buildings (through means other than construction) and other generally unpredictable occurrences such as the need to repair unexpected damage to buildings caused by age, wear, weather, or storms.

Question: Are you keeping your relatively new Red Rock visitor center in Las Vegas open all week or is it still part-time? I find it unusual that we would construct such a fine facility, equip it with such first-rate exhibits, and then only open it part-time. Why is that?

Answer: The Red Rock Visitor Center is open Friday through Tuesday each week. This schedule is a direct response to visitation levels since there is not enough visitation on the other two days to justify the additional cost of keeping the center open on these days.

Question: Your 1986 budget proposes an increase of $284,000 for the building maintenance program. Do you know where this increase will be spent?

Answer: The $284,000 increase will primarily be directed toward Colorado and Nevada. Other State offices may receive a part of the increase based on their identified needs which will be submitted to the Headquarters Office in September.

Question: Do you have known building maintenance needs that will go unmet in 1986? If so, what are they?

Answer: Building maintenance needs related to health and safety of the public and BLM employees will be met, or the facilities will not be used. There will undoubtedly be some amount of routine, preventive-type maintenance work which may not be accomplished because of higher priority needs. The specifics will vary from State to State.

BLM/FS Interchange

Question: Are all of these costs for "planning", as compared to "implementing"? As you know, we understand that the House Appropriations Subcommittee has included language in the FY 1985 Supplemental Appropriations bill that would restrict the expenditure of funds to planning activities, and not permit expenditure on implementation activities.

Answer: The BLM FY 1986 request includes $1,820,000 to cover a portion of the estimated implementation costs expected to be incurred in FY 1986. The Forest Service FY 1986 request contains $14,400,000 for implementation costs. The total of these amounts planned should be adequate for steps anticipated during FY 1986.

Anticipated actions in FY 1986 include one-time administrative actions such as consolidation of office locations, relocation of some employees, and other actions necessary for such a reorganization. BLM's FY 1986 President's Budget also reflects the transfer of management of the O&C Grant Lands to the Forest Service. All of these actions would be expected to occur in FY 1986 after enabling legislation is passed.

Little, if any, funding is projected to be expended in FY 1986 on planning for the interchange. Most planning is expected to be completed in FY 1985, excluding any further planning required by congressional changes to land boundaries or management responsibilities now proposed in the interchange.

Question: What conflict will that language cause with existing law? For example, the General Counsel for the Department of Agriculture and the Solicitor of the Department of the Interior have reviewed the existing land management authorities in detail. Does their opinion differentiate between an "interchange" (i.e., one agency's personnel managing another agency's land subject to the land owning agency's laws and regulations) and a "transfer" (i.e., shifting land from one status to another with a change in administering agency)? What does their opinion conclude with respect to current law of such interchange practices as double-hatting, colocating offices, or relocating employees?

Answer: The opinion of the Solicitor of the Department of the Interior and the General Counsel for the Department of Agriculture considered three methods of implementing a proposal to transfer management of certain lands administered by the Bureau of Land Management and the Forest Service.

1. The transfer of land management authorities and functions by delegation from one Secretary to the other.

2. The transfer of lands from one Department to the other.

3. The interchange of agency personnel.

The Solicitor and the General Counsel reached three conclusions:

1. Since Congress has plenary power over Federal lands under the Constitution, and has granted authorities with respect to specific

lands to the Secretary of the Interior and to the Secretary of Agriculture, these authorities may not be transferred or delegated outside the respective Departments without specific statutory authorization.

2. There are two authorities which allow the transfer of some lands from one Department to the other. These are Section 204 of the Federal Land Policy and Management Act and Section 32 of the Bankhead-Jones Farm Tenant Act.

3. The proposal may be implemented in part by appropriate interchange of personnel between the agencies.

In view of these conclusions, the decision was made not to transfer any lands administratively, but rather to await legislation authorizing implementation of the entire program, including transfer of jurisdiction over lands.

The opinion reached this final conclusion: While delegation by each Secretary to the other is not permissible, the aim of the proposal may be achieved by an interchange of personnel between the departments. Any such personnel arrangements providing for the exchange of services cannot affect basic authority over the lands, nor can it remove the agency's responsibility to administer a given piece of land in accordance with the laws, rules and regulations applicable to that land.

In reaching this conclusion, the Solicitor and General Counsel advised that there are three ways of achieving the aims of the jurisdictional interchange of management responsibilities through personnel changes, leaving the administration of the land with the agency to which Congress originally delegated the responsibility for its management. None of the three involves transfer of statutory and regulatory authority from one agency to the other.

The three ways are: (1) agency agreements under the Economy Act as amended, (2) detail of personnel from one agency to the other on a reimbursable basis, and (3) part-time position appointments in both agencies. Under any of the alternatives, the employees involved would be administering the rules and regulations of the other agency.

Thus "double-hatting" is permissible and can be accomplished without further legislation. However, a decision has been made that there will be no reassignment of line managers prior to authorizing legislation.

Relocation of BLM and Forest Service offices can be accomplished without legislation and has been done to some extent in the past.

Even without legislation, relocation opportunities in each agency can be offered to employees of both agencies.

As the proposed language for the Appropriations Bill is now written, it could be interpreted so strictly as to inhibit our ability to produce a complete and viable proposal. If the restrictions cannot be removed from the Bill, they should be clarified.

Question: We need to work with you and the House and other members of the Senate and with the public to establish some ground rules. Some of the actions that could potentially be covered by House language I wouldn't have any problems with, and other actions I would have a great deal of problems with. I would hope that we can reach a reasonable agreement on what can be done under current law and before enactment of additional legislation and what could not be done until legislation changes current law. We need to reassure all of the interested parties that the proposals will be developed and reviewed and implemented in an open and responsible manner and yet I hope that we do not have to enact legal prohibitions at this time banning certain activities. Have you seen the proposed House language yet? As soon as you can after it is made available, would you provide us with your analysis and recommendation?

Answer: It is our preference that there not be a statutory restriction. It is our opinion that the language that the House Appropriations Committee has included in the FY 1985 Supplemental Appropriations Bill will not cause a conflict because the interchange program is only being planned at this time, not implemented. It would be useful, however, if the intent of the language could be clarified so as to clearly allow the relocation of offices or employees that are not directly related to the interchange proposal.

The actions we are now taking are all of a planning nature, rather than actual implementation. If we are to develop a sound legislative proposal, we must identify and develop alternatives for literally hundreds of details connected with the proposal. These details include such things as refining proposed boundaries, looking at the organizations of both agencies to see how they might best fit the proposed boundaries, identifying which permits and leases might be affected, analyzing existing authorities and regulations to identify differences and similarities, etc. All of this information must be gathered and analyzed before we can adequately develop a legislative proposal. In addition, we have held approximately 85 public meetings in the West and consulted with nearly 600 interest groups and government entities, to identify and respond to their concerns. A formal public comment period including public hearings will be provided for 30 days beginning on June 7 to obtain input on our proposed implementation guides and legislative concepts. We have developed a schedule for the hearings to be conducted in the Western States as well as in Washington, D.C., and several selected Eastern locations. Comments received during this public review period will be analyzed and fully considered in the development of our proposal to be submitted to Congress.

We do not plan to take any irreversible actions prior to legislative action by the Congress. However, normal actions which improve management capabilities should not be restricted, such as sharing office or warehouse space when both agencies have offices in the same town, filling advertised vacancies through the merit promotion system, or similar actions which are not necessarily connected with the proposed interchange.

Question: On April 24, 1985, the Deputy Assistant Secretary for Policy, Budget, and Administration sent me a letter that says, in part:

> "As you know, the Secretary has made a commitment that no action will be taken to implement the Interchange without full public participation and consultation with the Congress."

Does this mean that the Department would see no problem with the funding restriction proposed by the House Subcommittee?

Answer: As we have indicated in our response to the previous question, we would prefer that there not be a statutory restriction. However, neither the Forest Service nor the BLM is planning to undertake any irreversible actions or to implement the interchange in FY 1985. We would prefer not to be restricted from continuing some normal, ongoing cooperative actions between the two agencies which are a part of our regular activities.

Such actions are not directly tied to the interchange, but may be construed by some to be moving to implement the proposal. These activities have been part of our efforts, over the past few years, to improve efficiency, coordination and cooperation between our two agencies. We do intend to continue these efforts since we have found them to be mutually beneficial. They are designed to increase our efficiency and effectiveness in resource management and our ability to serve the public better. We would like to describe briefly some of these activities so there will be no misunderstanding of our intent, or of what we are doing. These activities include:

- Sharing, where opportunities arise, facilities and space in towns where both agencies are presently located.

- Selecting employees from one agency through the merit promotion program or through voluntary lateral reassignments to fill vacancies in the other agency.

- Sharing of support personnel based on workload and need, such as receptionists, public contact specialists, procurement and contracting personnel, etc., within local areas to take advantage of specialized skills and opportunities for increased efficiency.

- Sharing of resource management specialists on projects such as environmental analyses, fires, timber sales, land use planning, etc.

- Continuing the use of cooperative management and related efforts in areas such as wild horse and burro management, the grazing fee study, timber contract relief programs, rights-of-way management, wild and scenic river management, wilderness and wilderness study activities, mineral leasing, and mining related responsibilities, etc.

Construction

Question: The Bureau is requesting no new budget authority for construction projects in 1986. Please provide for the record a report on unobligated funds by project and a proposed obligation schedule.

Answer: Most of the unobligated balances reflect the long leadtimes required to design, contract for, construct, and complete these projects. Projects in Alaska are further complicated by a short construction season. The requested information follows:

Project	State	Unoblig. Funds as of 4/30/85	Projected Use thru FY 1986	Expected Carryover to FY 1987
Galena Sewer and Water System	AK	$ 33,000	$ 33,000	---
Alaska Fire Service Warehouse	AK	1,370,000	1,370,000	---
Senator Wash Rec. Site	AZ	107,000	107,000	---
Elko District Office	NV	129,000	129,000	---
Red Rocks Visitor Center	NV	131,000	100,000 1/	31,000
Total		$1,770,000	$1,739,000	$ 31,000

1/ $100,000 may be reprogrammed for site investigation and pre-A&E design for the Fairbanks District Office construction project.

Question: Do you have a prioritized (within States) construction needs list? If so, please provide this list for the record.

Answer: The BLM does not have a prioritized list of construction needs. In light of the Bureau's competing priorities and in an effort to exercise fiscal restraint, the BLM has channelled funds into higher priority work.

Land Acquisition

Question: Please submit for the record the list of land acquisition projects contained in BLM's request of the Department.

Answer: Acquisition funds in BLM's request to the Department in FY 1986 were $300,000 for the King Range National Conservation Area and $300,000 for the Pacific Crest Trail, both in California.

Question: Also, please provide a funding obligation status report for all unobligated land acquisition funds.

Answer: Funding obligation status for unobligated land acquisition funds is as follows:

(dollars in thousands)

Project	Unobligated Funds as of 4/30/85	Projected Use thru FY 1985	Expected Carryover to FY 1986
1. Land and Water Conservation Fund			
King Range	$1,115	$ 975	$ 140
Bizz Johnson Trail	68	68	---
Pacific Crest Trail	99	39	60
Upper Missouri WSR	310	310	---
Rio Grande WSR	92	92	---
Rogue River WSR	306	---	306
Yaquina Head ONA	130	---	130
Acquisition Mgmt.	166	166	---
Total	$2,286	$1,650	$ 636
2. Non-Land and Water Conservation Fund			
Navajo-Hopi	$2,500	$1,000	$1,500
Total: LWCF & Non-LWCF	$4,786	$2,650	$2,136

Question: I understand that the Mt. St. Helens National Volcanic Monument Act anticipated a mineral exchange between the FS and private landowners within one year. What is the status of that exchange? What will be BLM's role in the exchange?

Answer: In response to the March 1985 FS/BLM proposal to Meridian and Weyerhaeuser to modify the proposed mineral estate exchange by dropping selected lands classified as prospectively valuable (PV) for oil, gas, and coal, the companies requested on April 8 and 9, that the Government provide them with information that led to the recommendation to delete PV lands and certain offered lands to balance the exchange, and to meet and resolve concerns or develop reasonable alternative courses of action to complete a fair exchange. On May 7, 1985, the FS/BLM provided the requested information and asked the companies to identify meeting objectives and possible alternatives for completing the exchange. We are presently awaiting a response from the companies.

The mineral estate of most of the selected lands lies outside Forest Service National Forest boundaries and is under the administrative jurisdiction of BLM. BLM has the responsibility to review and approve requisite mineral reports and mineral appraisals, note the public land records, and issue patent.

Question: Why has the exchange been delayed -- have the agencies not tried or have the private landowners not negotiated in good faith or have there been funding or appraisal problems? What is your current schedule to complete the exchange?

Answer: Mutual agreement between the concerned Federal agencies and the companies has not yet been reached. We feel that all parties have been negotiating in good faith. To date, there have been no funding problems impacting completion of the exchange.

BLM and the FS will continue to diligently pursue completion of the exchange. On May 7, 1985, the companies were provided with the information requested in their April correspondence as follow up to recommended changes in the acreage to be exchanged. We will be meeting with the companies hopefully to reach agreement on the exchange.

Question: Are adequate funds available?

Answer: Current funding is adequate to process the exchange if agreement can be reached with the companies to complete the exchange as modified by our recommendation of March 1985. Failure to reach agreement would require that we carry out resource evaluation on certain offered and selected lands, but the level of effort required has not been determined.

Question: Would you provide us with your recommendation for completing the exchange, and alternative recommendations for a speedy resolution. For example, are cash equalization payments or cash transactions authorized? Do you have appraisal data on hand to support a cash exchange?

Answer: Our recommendation is to meet with the companies and to discuss the ramifications of the recommendations contained in the BLM/FS March letters modifying the lands to be exchanged, and to either legally define the exchange consistent with the recommended modification or to evaluate other alternatives that the companies may wish to offer that will lead to an equitable consummation of the exchange. We are not presently considering cash equalization, although up to 25 percent of the exchange can be equalized under applicable regulations in this manner. A complete cash transaction may be a viable alternative; however, the Act mandates that acquisition of the mineral estate will be by exchange only.

Revised appraisal reports based on market data were completed in December 1984, by the FS. These appraisals have not been approved but are currently being reviewed by BLM.

Question: What is the estimated cost?

Answer: The appraisal reports prepared by the FS based on market data indicate at least the following values for the private mineral estates:

Weyerhaeuser - $93,000 Meridian - $161,000

O&C Lands

Question: If the O & C lands exchange is not concluded with the FS, what would be the base program for BLM to manage these lands? What would be BLM's recommended funding level?

Answer: Taking into account the FY 1985 enacted level, the FY 1986 President's Budget, management initiatives, and the 5 percent proposed pay cut, the recommended funding request for the O&C appropriation would be $49,785,000 for FY 1986.

Question: Last year, we added money for anadromous fish improvement projects and for enhanced management of the O&C lands subject to the new generation of renewable resource management plans. Could you bring us up to date on the implementation of those programs, and the shortfall between 1985 appropriations and the new management plans? By district, would you list funding costs and activities above the 1985 level and specify anticipated returns for each increment?

Answer: The FY 1985 O&C appropriation included $248,000 added by Congress for project survey and design of fish habitat improvement projects. These funds are being used to help develop a five-year fisheries habitat enhancements plan for the coastal streams in Oregon. The funds were allocated to the Oregon State Office, and work is underway on stream survey feasibility reports, project designs, and estimated costs and benefits. This report should be available later this year.

The timber management plans for the five western Oregon districts are all final and operational except for the use of herbicides. The U.S. District Court in Oregon has banned the use of herbicides until the Bureau does a worst case analysis that meets the Court's mandated requirements. The Bureau is trying to satisfy the Court's requirements. The decadal allowable cut produces an average annual offering of 1.185 billion board feet. In FY 1985 the Bureau will offer 1.132 billion board feet, a reduction of 53 million board feet. This is not due to a lack of funding but rather to the ban on use of herbicides which reduced the offering by 50 million board feet and the loss of commercial forest land to wilderness which permanently reduced the offering level by 3 million board feet. The Investment Analysis - Revised Timber Management Plans O&C Program, Western Oregon, projects a base program of $55 million annually. The FY 1985 appropriation essentially met this base program funding level. Constraints on use of herbicides are established by terms of Federal court orders at the present time. Until the issue of an acceptable worst case analysis is resolved, we cannot restore the level of timber offered. The only funding cost above the FY 1985 program would be in the use of herbicides as a long-term management tool (which presently cannot be done).

Timber Contract Modification Act

Question: How much timber volume is expected to be turned back to BLM in 1986?

Answer: Most of the BLM timber purchasers holding qualifying contracts for return under the Federal Timber Contract Modification Act (FTCMA) also hold Forest Service qualifying contracts. It is too early to predict how much BLM timber will be returned.

Question: How much of that is to be reoffered? At what cost?

Answer: Our first priority in the timber sale program will be reoffering those sales returned under the FTCM Act. However, many of the sales eligible for buy-out are up to seven years old; and many have been partially operated. Therefore, considerable work may be necessary before they are ready for resale. In addition, the Bureau has implemented new timber management plans since these sales were sold. Some sales may have to be modified before they are reoffered to conform to the new plans, or, in rare instances, dropped completely where they cannot conform to the new plans.

Question: Would you provide for the record a complete statement of the impact of that Act on BLM's timber program in 1986 and outyears, including cost estimates for road construction, etc.?

Answer: BLM is currently developing the final FY 1986 timber sale plan, which does not include reoffered sales at this time. However, the Bureau's first priority will be to substitute buy-out timber sales that can be reoffered with minimal changes for sales in the plan. Some sales will require the purchasers to complete some contract requirements before the contract can be bought out. These sales will not be available in time to be incorporated into the FY 1986 timber sale plan. Road construction has been completed for most of the timber sales that are subject to the Act. These sales can be reoffered with very few, if any, road construction requirements in the contract.

ATTACHMENT 3

A. SITES REQUIRING SITE INVESTIGATIONS

STATE CODE AND ERRIS/FFID NUMBER	SITE NAME	COUNTY	CITY
IDD980497481	CENTRAL COVE SL	CANYON	CALDWELL
ORD980723621	MERLIN LANDFILL	JOSEPHINE	MERLIN
WAD11415002	NIGHTHAWK MINE	OKANOGAN	NIGHTHAWK
IDD980726079	HELLS'S HALF ACRE E. FINGER DUMPSITE	BINGHAM	FIRTH

B. SITES REQUIRING PRELIMINARY SITE ASSESSMENTS

STATE CODE AND ERRIS/FFID NUMBER	SITE NAME	COUNTY	CITY
NV1411XXXXXX	PESTICIDE DUMP,	HUMBOLDT	WINNAMUCCA
OR1411V0004	LYTLE BLVD. DUMP	MALHEUR	VALE
OR1411V0006	SLIDES DUMP	MALHEUR	ONTARIO-WEISER
IDD1411C0012	CHAMPAGNE CREEK		BOISE
MT01411A0001	THORIUM CITY WASTE DUMPS	BEAVERHEAD	GRANT
MT01411A0002	TUNGSTEN MILL, MILL TAILINGS	BEAVERHEAD	GLEN
MT01411A0003	ERMONT MILL, MILL TAILINGS	BEAVERHEAD	ARGENTA
MTD1411A0004	SLUICE GULCH LEAKING MINE ADIT		
IDD980725907	LESLIE DUMPSITE	CUSTER	LESLIE
COD980666770	PLACERVILLE TRAM SITE	SAN MIGUEL	PLACERVILLE

SITES REQUIRING PRELIMINARY SITE ASSESSMENTS

ERRIS/FFID NUMBER	SITE NAME	COUNTY	CITY
COD980499289	SAWPIT TRAM SITE (ORE STORAGE)	SAN MIGUEL	SAWPIT
AZD980389175	LAKE HAVASU SAN. DISTRICT	MOHAVE	LAKE HAVASU
COD980666838	ORCHARD MESA LANDFILL	MESA	GRAND JUNCTION
NVD980695324	ANTELOPE VALLEY PESTICIDE CONTAINER DISPOSAL SITE	LANDER	ANTELOPE VALLEY
NVD980637599	ORMSBY SANITARY LANDFILL	ORMSBY	CARSON CITY
NVD980637714	QUINN RIVER VALLEY, PESTICIDE DISPOSAL	HUMBOLDT	HUMBOLDT
NVD010984979	DOUGLAS COUNTY SANITARY LANDFILL	DOUGLAS	GARDNERVILLE
OR1411V0005	CITY OF VALE DUMP	MALHUER	VALE

ATTACHMENT 4

GLOSSARY OF TERMS

COE	CORPS OF ENGINEERS
BRECL	BUREAU OF RECLAMATION
DOD	DEPARTMENT OF DEFENSE
MC	MINING CLAIM
PL	PUBLIC LAND
R&PP	RECREATION AND PUBLIC PURPOSE ACT
ROW	RIGHT-OF-WAY
SL	SANITARY LAND FILL
A	ACTIVE SITE - (REFERRED BACK TO STATE OFFICE FOR APPROPRIATE ACTION UNDER NORMAL COMPLIANCE PROCEDURES.)
A/C	BLM, COMPANY OR RESPONSIBLE PARTY, ACTION COMPLETE, NO FURTHER ACTION NECESSARY.
I	INACTIVE SITE.
I/O	INACTIVE, ORPHANED SITE.
I/R	INACTIVE, RESPONSIBLE PARTY IDENTIFIED.
O	CLEANUP RESPONSIBILITY OF OTHER FEDERAL AGENCY
RD	ROAD
RR	RAILROAD
ERRIS	EMERGENCY AND REMEDIAL RESPONSE INFORMATION SYSTEM (EPA)
FFID	ie. C01411A0001....THE FIRST TWO LETTERS DESIGNATE THE STATE, 1411 INDICATES THAT THE SITE IS A FEDERAL FACILITY AND THE LAND IS ADMINISTERED BY THE BLM, THE LETTER FOLLOWING IS A CODE WHICH DESIGNATING WHICH FIELD OFFICE COORDINATES THE SITE, FOUR DIGITS REPRESENT THE SO NUMBER BETWEEN 0001 AND 9999 USED TO REFER TO THE SITE.
ERRIS NUMBERS (WITH FFID NO.)	WHEN THERE IS AN FFID NUMBER WHICH ACCOMPANIES IT, (ERRIS IN PARENTHESIS) NUMBER IS FOR REFERENCE ONLY.

ALASKA

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
AK2570028652	DEWLINE SITE POW-3 FLAXMAN ISLAND	0	DOD RESPONSIBILITY.
AK5570028618	DEWLINE SITE BAR-MAIN BARTER ISLAND	0	DOD RESPONSIBILITY.
AK9570028697	DEWLINE SITE LIZ-2, POINT LAY	0	DOD RESPONSIBILITY.
AK6570028716	DEWLINE SITE LIZ-3, WAINWRIGHT	0	DOD RESPONSIBILITY.
AK3570028677	DEWLINE SITE POW-1, LONLEY	0	DOD RESPONSIBILITY.
AK5570028691	DEWLINE SITE POW-2, OLIKTOK	0	DOD RESPONSIBILITY.
AK1570028695	DEWLINE SITE POW-MAIN, POINT BARROW	0	DOD RESPONSIBILITY.
------------	DEWLINE SITE LIZ-B ICEY CAPE	0	DOD RESPONSIBILITY. FUEL TANK. FFID PENDING
------------	TITINA FIELD, ROAN RIVER	0	DOD RESPONSIBILITY. 200 FUEL DRUMS. FFID PENDING.
------------	FORT RICHARDSON, RUSTY PEAK	0	DOD RESPONSIBILITY. 20-40 FUEL DRUMS. FFID PENDING.
------------	SITKINSK USGS LORAN STATION,	0	DOD RESPONSIBILITY. FUEL DRUMS AND TANKS. FFID PENDING.
------------	DEWLINE SITE, ST. LAWRENCEISLAND	0	DOD RESPONSIBILITY. HWM SUSPECTED. FFID PENDING.
------------	DEWLINE SITE LIZ-C, PIERD BAY	0	DOD RESPONSIBILITY. FUEL TANKS AND PIPELINES. FFID PENDING.
------------	DEWLINE SITE, CAPE SIMPSON	0	DOD RESPONSIBILITY. FUEL TANKS. FFID PENDING.
------------	DEWLINE SITE, ICEY REEF	0	DOD RESPONSIBILITY. FUEL TANKS. FFID PENDING.
------------	KODIAK, USGS, BELLA FLATS	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.

ARIZONA

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
AZD980389175	LAKE HAVASU SAN. DISTRICT	A	R&PP LEASE FOR SANITARY LANDFILL. REASON FOR LISTING IS UNKNOWN.
AZ1411xxxxx	HILLSIDE MINE NEAR BAGDAD	I	ABANDONED GOLD/SILVER LEACHING OPERATION, ON PRIVATE LAND AFFECTING BLM LAND. PART OF THE OPERATION IS SPILLING ONTO BLM LAND. PENDING WATER STUDY. ERRIS NO. PENDING.
AZD980496798	SOMERTON LANDFILL	O	BUREAU OF RECLAMATION PERMIT ON WITHDRAWN BLM LANDS. REASON FOR LISTING UNKNOWN.
AZ1411xxxxx	SOUTHWESTERN ARIZONA DESERT DISTRICT AREA	O	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING..
AZD980695852	CONGRESS CONSOLIDATED GOLD MINING COMPANY	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD083717843	CYPRUS BAGDAD COPPER CO.	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD980585806	INSPIRATION CON. COPPER, OX HIDE AREA	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD980355689	INSPIRATION CON. COPPER, CHRISTMAS AREA	A	MC. TAILINGS AND WASTE. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD008398521	INSPIRATION CON. COPPER, INSPIRATION AREA	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD000626606	KENECOTT MINING CO., MINES PLANT	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD007111065	RANCHERS EXPLORATION AND DEVELOPMENT CORP., BLUE MINE.	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD980735682	ZONIA COPPER MINE	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
AZD042370080	ASARCO, INC. ,SILVER BELL MINE (2nd MILL)	I	MC. TAILINGS AND WASTE. ASARCO. INC. IS RESPONSIBLE PARTY.

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
AZD980389027	DUVAL CORP., MINERAL PARK PROP.	I	MC. INACTIVE MINE. DUVAL CORP. IS RESPONSIBLE PARTY.
AZD035940410	DUVAL CORP., SIERRITA/ESPERANZA MINE	I	MC. MINE WASTE. DUVAL CORP. IS RESPONSIBLE PARTY.

CALIFORNIA

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
CAD980498612	IRON MOUNTAIN MINE	U	STREAM ON PL AFFECTED BY METALS. SITE IS ON PRIVATE LAND.
CAD980498570	FT IRWIN RD. DSPL.	0	ACTIVE RIGHT-OF-WAY. ROAD DISPOSAL OF LIQUID WASTE (DOD RESPONSIBILITY).
CA1411xxxxx	HONEYLAKE	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	CHOCOLATE MTN.	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	EAST MESA, NEAR BRAWLEY	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	IRON MOUNTAIN,KILLECH HILLS	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	CUDDYBACK GUNNERY RANGE	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	RICE VALLEY	0	DOD RESPONSIBILITY. LIVE ORDNANCE. FFID PENDING.
CA1411xxxxx	JOHNSON VALLEY	0	DOD RESPONSIBILITY. LIVE ORDNANCE. 75sq mi. FFID PENDING.
CA1411xxxxx	TWENTY-NINE PALMS MARINE BASE	0	DOD RESPONSIBILITY. LIVE ORDNANCE. 30sq mi. FFID PENDING.
CA1411xxxxx	OWL'S HEAD MTN'S	0	DOD RESPONSIBILITY. LIVE ORDNANCE. 187sq mi. FFID PENDING.
CA1411xxxxx	CALIF. DESERT DISTRICT AREA	0	DOD RESPONSIBILITY. WW11 ORDNANCE. 6250sq mi. FFID PENDING.
CAD980636724	BUREAU OF LAND MGM'T. DESERT DIST.	A	ACTIVE RIGHT-OF-WAY, EVAPORATION POND (AMEROIL). OTHER INVESTIGATIONS UNDER WAY.
CAD980637920	EL CAPITAN QUARRY	I	UNVERIFIED.
CAD980496863	ATLAS ASBESTOS	I	PARTLY ON PL. ON NAT'L PRIORITY LIST EPA TAKING ACTION.
CAD980362412	COALINGA ASBESTOS COMPANY	I	LOCATED IN T18S,R13E,SEC.34. PATENTED CLAIMS. DOWNSTREAM BLM LANDS AFFECTED. ON NAT'L PRIORITY LIST. NOT ON PL.
CAD980673313	BLM VILLECITAS OIL FIELDS	A	MIXED PL AND PRIVATE LANDS INVOLVED. ENTRY OBTAINED FROM EPA REGION IX.
CAD980695795	MOLYCORP INC.	A	PIPELINE RIGHT-OF-WAY. DISPOSAL SITE BY MINING PLAN AMENDMENT.
CAD9800636823	SHELL OIL COMPANY, GORE B.	A	REASON FOR LISTING UNKNOWN.
CAD980695498	UNION CARBIDE, JOE MINE	A	LOCATED ON PL. DOWNSTREAM BLM LANDS AFFECTED.

COLORADO

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
COD980666838	ORCHARD MESA LANDFILL	A	LOCATED ON PL. REASON FOR LISTING UNKNOWN. COUNTY IS REQUESTING DELETION FROM ERRIS LIST.
COD989031876	ANVIL POINTS, RIFLE	U	NOT ON PL
COD980667026	INACTIVE GOLD MINING (CENTRAL CITY)	U	NOT ON PL .
COD980666770	PLACERVILLE TRAM SITE	U	LOCATED PARTLY ON PL. NO ADDITIONAL INFORMATION (MEMO 3/20).
COD980499289	SAWPIT TRAM SITE (ORE STORAGE)	U	UNVERIFIED.
COD058734203	ENERGY FUELS MINE #1	U	UNVERIFIED. ENERGY FUELS WOULD BE RESPONSIBLE PARTY.
COD000716423	ENERGY FUELS MINE #2	U	UNVERIFIED. ENERGY FUELS WOULD BE RESPONSIBLE PARTY.
COD000716480	ENERGY FUELS MINE #3	U	UNVERIFIED. ENERGY FUELS WOULD BE RESPONSIBLE PARTY.
COD000716662	STANDARD METALS CORPORATION	U	UNVERIFIED. STANDARD METALS WOULD BE RESPONSIBLE PARTY.
COD007063274	UNION CARBIDE, URAVAN MILL SITE	U	LOCATED PARTLY ON PL. NO ADDITIONAL INFORMATION. UNION CARBIDE WOULD BE RESPONSIBLE PARTY.

EASTERN STATES

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
None Known			NO HMM SITES ON BUREAU ADMINISTERED LANDS IN ANY REGIONS PENDING FINDINGS FROM FLORIDA AND LOUISIANA.

IDAHO

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
IDD980725725	SPRINGFIELD UNAUTHORIZED DUMPSITE, SPRINGFIELD	U	LOCATED IN T35,R32E,SEC.15. UNAUTHORIZED SITE. STATE REPORT PENDING.
IDD980725774	UPPER LITTLE LOST UNAUTHORIZED DUMPSITE	U	NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0025.
IDD98072564	LESLIE DUMPSITE NORTH	U	T.7 N., R.25 E., SEC. 34C, NO HAZRDOOUS WASTE FOUND. PRELIMINARY ASSESSMENT DONE BY STATE.
IDD980725970	LESLIE DUMPSITE SW	U	T.6 N., R. 24 E., SEC. 18, , VERY SMALL QUANTITIES OF HAZARDOUS WASTE WITH MINUTE RISK. PRELIMINARY ASSESSMENT DONE BY STATE.
IDD980725667	SPRINGFIELD DUMPSITE	U	T. 32 E., R. 32 E., SEC. 14. STATE PRELIMINARY ASSESSMENT REPORTS NO HAZARDOUS WASTE FOUND (ISO CASE NO. 84-0027).
IDD980497481 (IDD1411A0006)	CENTRAL COVE SL, CALDWELL	I	SITE CLOSED. SMALL PART ON PL. CONTAINS SOME MATERIAL THAT MAY HAVE TO BE REMOVED. STATE RECOMMENDS FULL SITE ASSESSMENT. ISO CASE #84-0036.
IDD980725428	PESTICIDE DUMP SITE, MURPHY	U	LOCATED IN T34,R1W,SEC.35, NOT PUBLIC LAND. NO HAZARDOUS MATERIAL FOUND. ISO CASE NO. 84-0009. REQUIRED ACTION HAS BEEN COMPLETED.
IDD980726020	HOMEDALE ARPT	U	NOT PUBLIC LAND. ISO CASE NO. 84-0014.
IDD072981533	OWYHEE CO.- MARSING,	I	NOT ON PL. BLM ACTION COMPLETE. ISO CASE NO. 84-0012.
IDD980722771	PULLMAN MINE, COTTONWOOD,	I	STATE FOUND NO HAZARDOUS WASTE AND RECOMMENDS NO ACTION. ISO CASE 84-0002.
IDD9P0726137	HELL'S HALF ACRE	U	T.2N,R35E,SEC.21. SURVEY CONDUCTED BY STATE SITE COULD NOT BE LOCATED. ISO CASE NO. 84-0010.
ID1141F0015	ELK CITY	I	CYANIDE HEAP LEACH OPERATION ON UNPATENTED LAND. CLEANUP BEING CONDUCTED BY RESPONSIBLE PARTY.
IDD980725964	LESLIE DUMPSITE, LESLIE	U	LOCATED IN T7N,R25E,SEC.34c. STATE REPORTS NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0028.
IDD988726667	SPRINGFIELD DUMP, SPRINGFIELD	U	LOCATED IN T35S,R32E,SEC.14. STATE FINDS NO HAZARDOUS WASTE PRESENT. ISO CASE NO. 84-0015.
IDD980725600	SPRINGFIELD DUMP, SPRINGFIELD DUMP	U	LOCATED IN T.3 S., R 32 E., SEC.23. STATE FINDS NO HAZARDOUS WASTE PRESENT. ISO CASE NO. 84-0016.
IDD980725782	SPRINGFIELD DUMP SITE	U	T. 3 S., R. 32 E., SEC. 12. NO HAZARDOUS MATERIAL FOUND. ISO CASE NO. 84-0018.
IDD980726251	EDMONDS UNAUTHORIZED DUMPSITE, EDMONDS	U	LOCATED IN T7N,R38E,SEC.24-25. NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0024.
IDD980726012	HOWE DUMPSITE, HOWE	U	LOCATED IN T6N,R29E,SEC.31. NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0019.
IDD980726434	REYNOLDS PESTICIDE DUMP	I	LOCATED IN T2S,R3W,SEC.31. R&PP TO OWYHEE CO.. STATE HAS INSPECTED NO KNOWN HAZARDOUS WASTE. ISO CASE NO. 84-0608.
IDD980726376	BLUE DOME UNAUTHORIZED DUMPSITE, BLUE DOME	I	LOCATED IN T10,R30E,SEC.30, UNAUTHORIZED. STATE FOUND NO HAZARDOUS WASTE AND RECOMMENDS REMOVAL FROM THE ERRIS LIST. ISO CASE 84-0007.
IDD980726319	CEDAR BUTTE, SOUTH END DUMPSITE	I	LOCATED IN T2S,R32E,SEC.15. STATE FOUND NO HAZARDOUS WASTE AND RECOMMENDS REMOVAL FROM THE ERRIS LIST. 84-0023.
IDD980726196	HELL'S HALF ACRE W. FINGER DUMPSITE,FIRTH	I	LOCATED IN T1S,R36E,SEC.32. STATE RECOMMENDS NO ACTION DUE TO MINIMAL HAZARDOUS MATERIAL FOUND. ISO CASE NO. 84-0021.
IDD980726087	NORTH CREEK MILL,	I	T 6. N., R. 29 E., SEC. 6. REMEDIAL ACTION HAS BEEN TAKEN. ISO CASE NO. 84-0003. COST OF CLEANUP $105,000 - $110,000
IDD980664858	OWYHEE CO. GRANDVIEW	A	T. 6S., R. 4 E., SEC. 14. STATE RECOMMENDS NO ACTION. NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0006..
IDD980497515	MARSING/HOMDALE	I	T. 2N., R. 5W., SEC. 8. BLM HAS GRANTED R&PP LEASE. STATE RECOMMENDS NO ACTION. NO HAZARDOUS WASTE FOUND. ISO CASE NO. 84-0001.
IDD980497606	OWYHEE CO., WILSON CREEK LDFL, MARSING	A	T. 1S., R. 3W., SEC. 13, BLM HAS GRANTED R&PP LEASE. STATE HAS FOUND NO HAZARDOUS WASTE. STATE RECOMMENDS NO ACTION. ISO CASE NO. 84-0011.

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
IDD490008952	IDAHO NAT. ENGINEERING LAB, SCOVILLE	0	NOT BLM ADMINISTERED (DOE JURISDICTION). ISO CASE #84-0005.
IDD572890002 IDD1411A0005	NATIONAL GUARD IMPACT AREA	0	LOCATED IN T2-3 S., R2-3E S., SEC. ALL. UNITED STATES ARMY C.O.E. RESPONSIBILITY FOR CLEANUP. ISO CASE #84-0004.
IDD980726079	HELLS'S HALF ACRE E.FINGER DUMPSITE, FIRTH	I	LOCATED IN T1S,R36E,SEC.4. STATE REPORT RECOMMENDS FURTHER INVESTIGATION.
ID1141B0007	PESTICIDE DUMP SITE SEC. 31	U	LOCATED IN T13S., R21E., SEC. 31 NESE1/4. SUBMITTED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR FY 86. ISO CASE 84-35.
ID1141B0008	PESTICIDE DUMP SITE SEC. 32	U	LOCATED IN T12S., R21E., SEC 32. SUBMITTED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR FY 86. ISO CASE #84-0034.
ID1141B0009	PESTICIDE DUMP SITE SEC. 34	U	LOCATED IN T12S., R21E., SEC 34. SUBMITTED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR FY 86.ISO CASE #84-0033.
ID1141B0010	PESTICIDE DUMP SITE SEC. 11	U	LOCATED IN T11S., R19E., SEC. 11. SUBMITTED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR FY 86. ISO CASE #84-0032.
ID1141B0011	PESTICIDE DUMP SITE SEC. 12	U	LOCATED IN T11S., R19E., SEC. 12. SUBMITTED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR FY 86. ISO CASE #84-0031.
IDD1411B0011	PESTICIDE DUMP, SEC. 5	U	T. 11 S.,, R. 19 E. SUBMITTIED FOR PRELIMINARY ASSESSMENT BY STATE. FURTHER ACTION SCHEDULED FOR 86. ISO CASE #84-0030.
IDD1411C0012	CHAMPAGNE CREEK	I	LOCATED IN T3N., R24E., 15 SE1/4. ABANDONED MINE. ISO CASE #84-0029.
IDD980725899 IDD1411C0002	MORGAN'S PASTURE ROAD DUMP	U	T1N., R35E., SEC. 33-34. LOW PRIORITY FOR FURTHER INVESTIGATION. PA DONE. UNAUTHORIZED DISPOSAL SITE. ISO CASE #84-0022.
IDD980725956 IDD1411C0001	MENAN UNAUTHORIZED DUMP	U	T6N., R38E., SE. 26-27. UNAUTHORIZED DISPOSAL AREA USED FOR 30+ YEARS. ISO CASE #84-0026.
IDD1411-----	GWEN CAVE	U	DISCOVERY NEAR CAVE, 50 LBS OF UNKNOWN WHITE GRANULAR MATERIAL. CONFIRMED LEAKAGE ONTO GROUND.. ISO CASE #84-038.
IDD048340921	BUNKER HILL	I	PORTION POSSIBLY INVOLVES SOME PL. ON NAT'L PRIORITY LIST. STATE OF IDAHO IS SUING COMPANY.
IDD980722359 IDD1411A0004	DELAMAR SILVER MINE, SILVER CITY,8MI W.	A	T. 15 S., R. 35 E. TAILINGS POND PARTIALLY ON PL. CYANIDE MAY BE BEING USED. STATE REPORT INDICATES THAT FURTHER INVESTIGATION MAY BE NEEDED. ISO CASE #84-0013.
IDD1411----	MOUNTAIN HOME AIRSTRIP	0	NEAR MOUNTAIN HOME. BOISE, DISTRICT. COST OF CLEANUP IS UNKNOW. ISO CASE #84-0040.
IDD980726079 IDD1411C0002	HELLS'S HALF ACRE S.FINGER DUMPSITE	I	LOCATED IN T1S,R36E,SEC.4. FURTHER INVESTIGATION NEEDED, STATE GIVES SITE LOW PRIORITY. IDAHO STATE OFFICE CASE (ISO) #84-0020

Montana

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
SDD980717532	BLACK HILLS ORDINANCE DEPOT	0	IS ADJACENT TO BLM SURFACE. MAY AFFECT BLM SUBSURFACE MINERAL DEVELOPEMENT. CORPS OF ENGINEERS HAS RESPONSIBILITY FOR CLEANUP.
SDD980717524	FT. MEADE LDFL	0	IS ADJACENT TO BLM LANDS.
SDD980373773	HOT SPRINGS VA HOSPITAL	0	IS ADJACENT TO BLM LANDS.
SDD980667364	LDFL, NEAR ST. ONGE-N. HIUS SANITATION	I	MAY AFFECT BLM SUBSURFACE MINERAL DEVELOPEMENT.
SDD980717136	WHITEWOOD CREEK	I	SITE CROSSES BLM SURFACE-SUBSURFACE. APPROXIMATELY 2 ACRES OF PL AFFECTED. ON NAT'L PRIORITY LIST.
SDD041243833	HOMESTAKE MINING CO., GOLD DIVISION	I	PATENTED MC. THIS IS THE STATE TOP PRIORITY SITE. NOT ON PL.
SD6640090035	TVA SILVER KINGS MINES, INC.	A	PATENTED MC. NOT ON PL.
MT1411xxxxx	O'FALLEN RADAR STATION, MT.	0	DOD RESPONSIBILITY. X-RAY MATERIALS IN DUMP. FFID PENDING.
MTD1411A0001	THORIUM CITY WASTE DUMP	I	T. 10S., R. 15W., SEC. 21,22,27,28. INACTIVE MINE WITH TAILINGS.
MTD1411A0002	TUNGSTEN MILL MILL TAILINGS	I	T. 4S., R. 9W., SEC. 4,5,9. INACTIVE MINE WITH HEAVY METALS SUSPECTED.
MTD1411A0003	ERMONT MILL MILL TAILINGS	I	T. 6S., R. 11W., SEC. 35. IMPOUNDMENT ASSOCIATED WITH PAST MINING ACTIVITY. HEAVY METALS SUSPECTED.
MTD1400A0004	SLUICE GULCH LEAKING MINE ADIT	I	T. 6S., R. 15W., SEC. 5. MINE DISCHARGE FLOWING INTO CREEK. AMMONIA NITRATE AND HEAVY METALS SUSPECTED.

Nevada

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
NVD980695324	ANTELOPE VALLEY PESTICIDE CONTAINER DISPOSAL SITE	A	SPECIAL LAND USE PERMIT.
NVD980637714	QUINN RIVER VALLEY, PESTICIDE DISPOSAL	A	LOCATED IN T43N,R36E,SEC.18. (SPECIAL LAND USE PERMIT).
NVD980637599	ORMSBY SL	A	LOCATED IN T15N,R20-21E. SEC41S. R&PP LEASE FOR SL.
NVD010984979	DOUGLAS COUNTY SL	A	R&PP LEASE. LOCATED IN T21N,R21E,SEC.18. REASON FOR LISTING UNKNOWN.
NVD980419899	TAYLOR MINING	O	PRIVATE AND FOREST SERVICE LAND.
NV1890090011	US DEPT. OF ENERGY, NEVADA	O	LOCATED IN AREA 5 T13S,R54E,SEC.16, TEST SITE AND AREA 3 T10S,R54E,SEC.19 THE SITES ARE LOCATED WITHIN THE NEVADA NUCLEAR TEST SITE WHICH IS A BLM WITHDRAWAL. BECAUSE OF ITS IMPORTANCE TO NATIONAL SECURITY, ACCESS IS HIGHLY RESTRICTED AND LIMITS BLM'S ACTIVITIES. DEPARTMENT OF ENERGY SHOULD SHOULD BE CONTACTED FOR FURTHER INFORMATION IF DESIRED.
NV14117xxxxx	PESTICIDE DUMP, WINNAMUCCA	U	FFID PENDING.
NVD980695209	ALL MINERALS, INC., BARITE MINE AND MILL	A	MC. ACTIVE MINE RESPONSIBILITY OF OPERATOR.
NVD980419402	AMERICAN BORATE COMPANY	A	LOCATED IN T18S,R49E,SEC.1,NW 1/4. RESPONSIBILITY OF OPERATOR.
NVD980372114	CANDELARIA PARTNERS OMC	A	LOCATED IN T3,4N,R35E,SEC.22,33,34,3,3-5. MC. NO KNOWN DETRIMENTAL IMPACT. ALSO KNOWN UNDER NAME NERCO MINERAL COMPANY. RESPONSIBILITY OF OPERATOR.
NVD070016662	CARLIN GOLD MINING	A	LOCATED IN T35N,R50E,SEC.14. RESPONSIBILITY OF OPERATOR.
NVD980506141	CHROMALLOY MINING AND MILLING MINERALS	A	LOCATED IN T42N,R63E,SEC.11. APPROVED MINING PLAN . RESPONSIBILITY OF OPERATOR.
NVD980737563	CHROMALLOY MINING AND MILLING	A	LOCATED IN T42N,R62E,SEC.17. APPROVED MINING PLAN. RESPONSIBILITY OF OPERATOR.
NVD000604025	THE CORTEZ JOINT VENTURE	A	LOCATED IN T27N,R47E,SEC.13. APPROVED MINING PLAN. RESPONSIBILITY OF OPERATOR.
NVD980419477	CRESCENT MINING LTD, REST MINE	A	LOCATED IN T28S,R1E,SEC.31. HEAP LEACH CYANIDE OPERATION. RESPONSIBILITY OF OPERATOR.
NVD989675268	CRESCENT VALLEY MILL	A	MILLSITE CLAIMS. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD006518021	CYPRUS MINES CORP., NORTHCUMBERLAND PROJ.	A	MILLSITE CLAIMS. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD980637540	DALLAS MINES, NEVADA INC.,	A	LOCATED IN T3N,R36E,SEC.17, NE 1/4. ARGENTUM MINE AUTHORIZED OPERATION CONSISTS OF AN ORE PROCESSING PLANT AND INCLUDES TAILINGS PONDS. CYANIDE IS USED IN THE EXTRACTION PROCESS. RESPONSIBILITY OF OPERATOR.
NVD980675722	DRESSER MINERALS, GREYSTONE MINE	A	MC AND MILLSITE CLAIMS. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD041129606	DUVAL CORP. MINE SITE	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD980419493	D & Z EXPLORATION CO., PACARD MINE	A	LOCATED IN T28N,R34E,SEC.32. BLM PERMIT MN-N2-122-83 HAS BEEN ISSUED. RESPONSIBILITY OF OPERATOR.
NVD980419576	ELY CRUDE OIL CO.	A	BLM PERMIT. ALSO KNOWN AS DRACOT. BATTLE MOUNTAIN DISTRICT. RESPONSIBILITY OF OPERATOR.
NVD980419659	INTERMOUNTAIN EXPLORATION	A	LOCATED IN T26S,R64E,SEC.9, MC. THIS IS A CYANIDE LEACH POND LOCATED ON THE CLAIMS. RESPONSIBILITY OF OPERATOR.
NVD980419691	KEMCO BUSTER MINE	A	BLM AUTHORIZED. RESPONSIBILITY OF OPERATOR.
NVD067813006	MCDERMITT MINE	A	LOCATED IN T47N,R37E,SEC.20,21,27,29,33,34. PERMIT MPO-N2-9-81 HAS BEEN ISSUED. RESPONSIBILITY OF OPERATOR.
NVD098807696	EISEMAN CHEMICAL CO. BARITE MINING INC.	I	LOCATED IN T34N,R62E,SEC.32, MINING NOTICE. RESPONSIBILITY OF OPERATOR.
NVD980419626	GOLD CREEK CORP.	I	MC, INACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD980735567	IMCO SERVICES INC., CLIPPER MILL NORRIS	I	MC, MILLSITE CLAIMS. RESPONSIBILITY OF OPERATOR.
NVD000619239	IMCO SERVICES INC., MT. SPRINGS MILL	I	MC, MILLSITE CLAIMS.RESPONSIBILITY OF OPERATOR.
NVD980419683	JUPITER GOLD CO.	U	RESPONSIBILITY OF OPERATOR.
NVD092390531	MINERALS CONCENTRATES AND CHEM.	U	RESPONSIBILITY OF OPERATOR.
NVD980419758	MULTI-METALLICS INC.	U	MC. RESPONSIBILITY OF OPERATOR.
NVD980419766	NEVADA NAPTH CORP.	U	AUTHORIZED. RESPONSIBILITY OF OPERATOR.
NVD093591030	NEW PASS RESOURCES, INC.	U	MC. RESPONSIBILITY OF OPERATOR.

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
NVD980419790	PANCANA IND. INC.,	U	MC. RESPONSIBILITY OF OPERATOR.
NVD980412865	STANDARD GOLD MINE	I	LOCATED IN T30N,R33E,SEC.1. RESPONSIBILITY OF OPERATOR.
NVD980695803	UNION CARBIDE CORP., EMERSON MINE	I	RESPONSIBILITY OF OPERATOR.
NVD980637537	UNION PACIFIC ROW	I	LOCATED IN T8S,R69E,E1/2,E1/2,E1/2,NW1/4,SW 1/4, NW SEC.23, M.D.M., PERMIT NO.SCC-0360 AND CC-08315.THE SITE COULD BE CONSIDERED INACTIVE. ADDITIONAL WASTES ARE NOT CURRENTLY BEING CONTRIBUTED TO THE SITE; HOWEVER, A TANK CAR CONTAINING POTENTIALLY HAZARDOUS PHOSPHOROUS IS BURIED AT THE SITE. THE SITE IS COMPLETELY FENCED AND EACH OF THE FOUR SIDES OF THE FENCE IS WELL-POSTED WITH SIGNS DESCRIBING THE NATURE AND DANGER OF THE HAZARD. UNION PACIFIC RIGHT-OF-WAY THE SITE IS WITHIN AN OLD RIGHT-OF WAY AND IS ROUGHLY 50 BY 100 FEET. UNDERGROUND LEAKAGE IS UNKNOWN. SITE IS ADJACENT TO MEADOW VALLEY WASH DRAINAGE. SURFACE AND GROUNDWATER FROM DRAINAGE IS UTILIZED A FEW MILES DOWN GRADIENT. RESPONSIBILITY OF OPERATOR.
NVD980419782	MONTELLO SHEELITE	A	LOCATED IN T40N,R69E,SEC.34. RESPONSIBILITY OF OPERATOR.
NVD980817670	MOUND MINERAL MGM'T. INC., ARGENTUM MILL	A	LOCATED IN T3N,R3E,SEC.17,NE 1/4. THIS IS THE SAME SITE AS NV980637540. RESPONSIBILITY OF OPERATOR.
NVD086126984	SMOKEY VALLEY MINING CO.	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD070307038	WESTERN WIND-FALL, LIMITED	A	MC. ACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NV1411xxxxx	DEE GOLD CORP.	A	LOCATED IN T37N,R50E,SEC.6. MINING PLAN. FFID PENDING.
NV1411xxxxx	COMINCO AMERICA INC.	A	LOCATED IN T26N,R49E,SEC.30. MINING PLAN. FFID PENDING.
NV1411xxxxx	UNIVERSAL GAS (MONTANA) INC.,	A	LOCATE IN T36N,R50E,SEC.31. MINING NOTICE. FFID PENDING.
NV1411xxxxx	WESTERN STATES MINERALS	A	LOCATED IN T36N,R50E,SEC.31. MINING PLAN. RESPONSIBILITY OF OPERATOR.
NVD980637607	AARON MINING	I	MC, INACTIVE MINE. RESPONSIBILITY OF OPERATOR.
NVD980419410	BAR RESOURCES INC.	U	RESPONSIBILITY OF OPERATOR.
NVD070925482	BUNKER HILL CO.	I	LOCATED IN T1N,R67E,SEC.29 EAST OF CENTER AND N 1/2, SE 1/4, N.D.M., (MILL SITES AND MC). SEVEN OR MORE SITES EXIST LOCATED PARTLY ON PL. BUNKER HILL COMPANY NO LONGER HAS INTEREST IN PIOCHE AREA. IMPOUNDMENTS ARE ALL TEMPORARILY IDLE; BUT ALL CONTAIN TAILINGS EFFLUENT. OTHER, MUCH LARGER, TAILINGS PONDS EXIST DOWN-GRADIENT FROM THOSE EXISTING IN SAID SECTION. THE EXTENT OF ANY PLUME OF UNDERGROUND DISCHARGE OR SUBSURFACE FLOW IS CURRENTLY UNKNOWN. THE SURFACE MANIFESTATION (DISCOLORED IRON-STAINED STREAM SEDIMENTS) CONTINUES SOUTHWARD IN THE DRAINAGE FOR A LEAST NINE MILES BEYOND THE LOWER IMPOUNDMENT. SURFACE DRAINAGE EXISTS IN AREAS OF PRIVATE LAND NEAR PRESENTLY INACTIVE MILLS AND ENCOUNTER THE SEVERAL IMPOUNDMENTS IN SAID SECTION 29. DISCHARGE DRAINAGES CONTINUE DOWN-GRADIENT FROM THE PONDS IN SECTION 29 TO THE CASSELTON MINE TAILINGS PONDS 1-10 THAT EXTEND SOUTHWARD FROM SECTION 29 OVER A MILE THROUGH SECTION 32 AND INTO SECTION 4 OF THE ADJACENT TOWNSHIP BUNKER HILL CO. OTHER STAINED DRAINAGES FROM PONDS MENTIONED ABOVE. SECTION 33 AND SECTION 3 OF THE ADJACENT TOWNSHIF ENTER THE ABOVE DRAINAGE EIGHT MILES DOWN-GRADIENT. CURRENTLY, THE CASSELTON TAILINGS PONDS ARE UNDERGOING PILOT-STAGE CYANIDE LEACH PROCESSING. RESPONSIBILITY OF OPERATOR.
NVD021173448	UTAH INTERNATIONAL, INC.	I	LOCATED IN T34N,R34E,SEC.35-36, PERMIT MN-N2-20-81. (ALSO CALLED TUNGSTEN PROP. LTD.). RESPONSIBILITY OF OPERATOR.
NVD060496127	WEST COAST OIL AND GAS CORP., GOOSEBERRY MINE	I	T19N,R22E,SEC.26, 36. RESPONSIBILITY OF OPERATOR.
NVD980419543	DOUBLE EAGLE INC., LOWER ROCHESTER	U	MC. RESPONSIBILITY OF OPERATOR.
NVD980419741	MT. HOPE MINE	U	MC. RESPONSIBILITY OF OPERATOR.

NEW MEXICO

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
NM1411xxxxx	NEW MEXICO UNIVERSITY SITE	A	RCRA PERMITTED FACILITY. BLM PERMIT. HAZARDOUS WASTE STORAGE SITE.
NM1411XXXXX	LEE'S ACRES	I	SANITARY LANDFILL ON R&PP LEASE. RELEASES OF H2S, APPARENTLY FROM UNAUTHORIZED DISPOSAL. RESULTED IN NEW MEXICO EID CLOSING OF SITE ON MAY 1985.
NM1411xxxxx	TULAROSA, LDFL	I	SEC.22,T.14 S.,R.10 E., NMPM. LDFL OPERATED BY CITY OF TULAROSA, NM UNDER AN R&PP LEASE UNTIL 1978. ALTHOUGH THE DUMP WAS CLOSED, LOCAL RESIDENTS ARE USING THE SITE AND SURROUNDING AREA TO DUMP TRASH. STATE INDICATES THAT THERE IS NO RISK FROM HAZARDOUS MATERIALS AT THIS TIME.
NMD097960272	CAL WEST METALS	A	T2S,R1W,NW1/4 NW1/4 SEC.2. BATTERY RECYCLING PLANT ON PRIVATE LAND WITH FEDERAL LAND ABOUT 600 FEET WEST. FUMES, AIRBORN PARTICULATES, AND LIQUID EFFLUENTS COULD IMPACT BLM LAND.

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
NMD001829506	EAGLE PICHER INC.	A	T2S,R1W,SEC.25-26,35-36, BATTERY AND ELECTRONIC COMPONENT MANUFACTURING PLANT. BLM LAND ABOUT 1,500 FEET NORTH. POTENTIAL SOURCES OF PARTICULATES AND LIQUID EFFLUENTS.
NMD980749394	WASTE ELECTRIC TRANSFORMER SITE NO. 1	I	T4S,R1W,SE 1/4, SEC.17 AND NE 1/4 SEC.20, USED TRANSFORMERS USED TO BE BURNED ON STATE LANDS; POSSIBLY ON ADJACENT BLM LANDS. THERE HAVE BEEN REOCCURING PROBLEMS WITH A LOCAL SALVAGE BUSINESS BURNING ELECTRIC CABLE IN THIS AREA. ENTRY FROM THE STATE OF NM. APPARENTL" NO PCB'S INVOLVED.
NMD980749602	WASTE ELECTRIC TRANSFORMER OIL SITE NO. 2	U	ON PRIVATE LAND. LOCATION MUST BE SURVEYED TO BETTER DETERMINE IMPACT, IF ANY, TO PL. APPARENTLY NO PCB'S INVOLVED.
NMD007106891	ANACONDA COMPANY, NEW MEXICO DIVISION	O	T12N,R11W,SEC.13 AND 24. MILLSITE. ADJACENT BLM LANDS COULD BE IMPACTED BY DUST FROM RADIOACTIVE DRIED TAILINGS AND CONTAMINATED WATER.
NMD005570015	KERR MCGEE NUCLEAR CORP	O	T14N,R9W,SEC.31, RESPONDANT SAYS IN MEMO THAT IT IS UNCLEAR FROM ERRIS DESCRIPTION, BUT BUT THIS PROBABLY REFERS TO KERR-MCGEE'S AMBRUSIA LAKE MILLSITE. POTENTIAL IMPACTS ON ADJACENT INDIAN AND BLM LANDS FROM DUST OR TAILINGS DAM FAILURE.
NMD030443303	UNITED NUCLEAR CORPORATION	O	T16N,R16W,SEC.2, JULY 16, 1979 RELEASE OF TAILINGS FROM IMPOUNDMENT, RELEASING 1,100 TONS OF MATERIAL. THIS IS CURRENTLY UNDER STUDY BY EPA.
NMD980506067	CITY OF LOCO HILLS, LDFL	A	T17S,R30E,SW 1/4 NE 1/4 SW 1/4 AND SE 1/4 NW 1/4 SW 1/4 AND NE 1/4 SW 1/4 SW 1/4 AND NW 1/4 SE 1/4 SW 1/4, SEC.22,. UNAUTHORIZED OIL DISPOSAL PIT ON R&PP LEASE FOR SANITARY LANDFILL. STATE RECOMMENDS REMOVAL FROM ERRIS LIST.

OREGON

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
ORD980723621	MERLIN LANDFILL	A	T.35 S., RW., SEC. 27, SWNE 1/4, SENW 1/4, N1/2NESW 1/4. R&PP LEASE TO CITY OF GRANT'S PASS. THE STATE OF OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) WILL EXAMINE THIS SITE LATER THIS YEAR AND OREGON STATE OFFICE WILL BE INVOLVED IN THE STATES ASSESSMENT OF THE SITE.
OR411V0005	CITY OF VALE DUMP	I	T. 18 S., R. 45 E., SEC 32 NWSE1/4. UNAUTHORIZED DUMP OPERATED BY CITY OF VALE. CLOSED IN 1977 KNOWN TO HAVE ACCEPTED PESTICIDES, CHEMICAL CONTAINERS.
OR1411V0004	LYTLE DUMP	U	T. 19S., R. 46 E., SEC 31, SE1/4 & T. 20 S., R. 46 E., SEC. 6, NE1/4. UNAUTHORIZED DUMPSITE FOR MUNICIPLE AND FARM WASTES, OPERATED BY MALHEUR COUNTY, SITE CLOSED SEPTEMBER 1983.
WAD11415002	NIGHTHAWK MINE	I	T. 40N., R. 25 E., SEC. 13. HEAVY METALS. CYANIDE OPERATION ON UNPATENTED CLAIM. WASTES THREATENING STREAM. UNATTENDED BARRELS OF SODIUM CYANIDE.
OR1411V0006	SLIDES DUMP	U	T. 15 S., R. 46 E., SEC. 35, LOTS 1 & 2, UNAUTHORIZED DUMP IN AGRIBUSINESS COMMUNITY.

UTAH

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
UTD980667208	HOUSE IN MONTICELLO, UTAH	O	DOE TRANSFER TO BLM. PROBLEM INVOLVES URANIUM MILL WASTES. BLM ACTION COMPLETE. STATE RECOMMENDS REMOVAL FROM ERRIS LIST.
UTD980635700	COTTONWOOD CANYON	O	MC. URANIUM MILL TAILINGS. DOE RESPONSIBILITY.
UT1411xxxxx	MERCUR MINE	O	URANIUM MILL WASTES. DOE RESPONSIBILITY. FFID PENDING.
UT1411xxxxx	DUGWAY PROVING GROUNDS	O	DOD RESPONSIBILITY. FFID PENDING.
UT1411xxxxx	ABANDONED GRAVEL PIT	O	DOD RESPONSIBILITY. LIVE ORDINANCE. FFID PENDING.
UTD980667208	HOUSE IN MONTICELLO,	O	DOE TRANSFER TO BLM. DOE IDENTIFIED AS RESPONSIBLE PARTY. PROBLEM INVOLVES URANIUM MILL WASTES. UTAH STATE RECOMMENDS REMOVAL FROM ERRIS LIST.
UT1411XXXXX	PUBLIC BUILDINGS	O	FEDERAL BUILDINGS CONTAMINATED BY MILL WASTE RADIATION. PREVIOUSLY USED BY BLM AS LESSEE. DOE IDENTIFIED AS RESPONSIBLE PARTY.
UT1411B0002 (UTD980635693)	DESERET MOUND MINE	I	MC, THERE IS A QUESTION WHETHER IT IS LOCATED ON PL. SURVEY NEEDED TO DETERMINE.

WYOMING

FFID OR ERRIS #	SITE NAME	CLASS	COMMENT
WYD009077496	FMC CORP., GREEN RIVER PLANT	I	MAY AFFECT APPROXIMATELY 1,280 ACRES OF PL.. PRIORITY FOR LITIGATION.
WYD069811404	KEMMERER COKE PLANT (FMC)	A	MAY AFFECT APPROXIMATELY 1,280 ACRES OF PL.
WYD083919621	STAUFFER CHEMICAL CO., GREEN RIVER	A	MAY AFFECT APPROXIMATELY 640 ACRES OF PL.
WYD980634984	UNION PACIFIC ROW (CARTER WYOMING)	A	MAY AFFECT APPROXIMATELY 480 ACRES OF PL.
WYD980375901	SPLIT ROCK URANIUM MILL SITE	0	SITE IS AUTHORIZED UNDER A MILL SITE CLAIM. FALLS UNDER NRC AUTHORITY.
WYD980717912	SPLIT ROCK URANIUM MILL TWN.	0	SITE FALLS UNDER NRC AUTHORITY. MC.
WYD980634927	TEXACO, CALPET OIL AND GAS FIELD	A	THE WELLS AND ASSOCIATED FACILITIES ON PL AUTHORIZED UNDER OIL AND GAS LEASES AND/OR RIGHT-OF-WAY. INCORRECT ERRIS DESIGNATION. ACTION COMPLETE.

ATTACHMENT 5

1984 Drug and Domestic Cannabis Eradication Program

Approximately a year ago, the Department initiated the Illicit Drug and Cannabis Reduction Program under the signature of the Under Secretary (copy attached). This ambitious effort was the result of a Presidential Initiative in the war against the ever increasing drug supply. The 1983 program plan will continue to guide this Departmental effort.

We are now experiencing the early stages of the 1984 growing season and already one of our bureaus has eliminated approximately 10,000 cannabis plants. This is to remind you that the Administration is continuing to increase the pressure against the drug producing individual and groups using Federal lands for this illicit activity. The President has again appealed through the Cabinet Council for increased efforts in 1984.

In keeping with the mutual agreement reached between the Assistant Secretaries, Bureau Directors and this office, we have directed the Chief, Division of Enforcement and Security Management (DESM) to establish cannabis eradication in 1984 as a major Departmental priority. To permit timely reporting to the Executive Office of the President, routine reports from field activities must be received by DESM as required by the original drug reduction plan. Necessary changes to the July 21, 1983 memorandum are as follows:

- In the future it will not be necessary to pass Freedom of Information Act (FOIA) requests to the Departmental FOIA Coordinator; however, coordination with the Chief, DESM, and the Solicitor's Office is still required.

- Volume measures of cannabis will be reported by plant count only, regardless of size.

- The use of metric weight measurements will be for interdiction activity reporting.

- Planning for FY 1985 should be developed and sent to the DESM with the final statistical report which will be due c.o.b. October 31, 1984.

Please ensure that all appropriate personnel and offices have been directed to continue timely reporting and coordination of drug supply reduction efforts with DESM. Your support in the months ahead will determine the success or failure of Interior's participation. Thank you.

JUL 21 1983

Memorandum

To: Assistant Secretary - Energy and Minerals
Assistant Secretary - Fish and Wildlife and Parks
Assistant Secretary - Land and Water
Assistant Secretary - Indian Affairs

From: Under Secretary JJ Simmons III

Subject: Cannabis Reduction Program

The attached plan is designed to establish control over the illegal cultivation of cannabis plants on Federal lands under our jurisdiction. Certain action is necessary at management levels and is required in field operations. Each Assistant Secretary and bureau director will provide firm instructions to their staff/employees regarding immediate implementation and compliance with the plan. It is expected that we will know where cannabis is being illegally cultivated on our lands, and that we will ensure every action necessary to cooperate with other Federal and State agencies.

You are reminded that this is a Presidential initiative - the growing and harvest season for this drug producing crop ends in August. If we are to locate and eradicate it, we must not delay.

Please provide copies of your implementing directives to the Chief, Division of Enforcement and Security Management, room 5426, who is directing and coordinating the Departmental effort. Reports required in the action plan must be submitted to the coordinator by the dates indicated. Progress will also be a subject on the agenda for the Secretarial staff meetings.

DEPARTMENT OF THE INTERIOR
DRUG ENFORCEMENT PLAN
(ILLICIT DRUGS AND CANNABIS CONTROL)

This Administration is committed to the significant reduction of drug abuse in this nation. Federal Strategy, developed by the White House in 1982, comprehensively involves all levels of Federal government in a coordinated role to interdict and eradicate illicit drugs wherever cultivated, processed, or transported. The Office of Drug Abuse Policy, White House, has been established by Executive Order 12368 for the purpose of coordination and oversight in implementing this national effort. The Department of the Interior (DOI) plays a key role in this strategy. Bureaus and offices will develop an aggressive approach to identify and control all forms of drug abuse activity on lands under our jurisdiction. Close coordination and cooperation with other Federal, State and local authorities is required. There are two key drug supply problems demanding immediate attention:

Drug Interdiction thru DOI Lands

Policy - Bureaus and offices will provide strong leadership in interagency cooperation for the detection, reporting, and appropriate law enforcement action to promote drug interdiction on all DOI jurisdictions. Incident reporting requirements to the Department will parallel those established for cultivated cannabis.

Domestic Cultivation of Cannabis

Policy - Bureaus and offices will develop ongoing programs to detect and eradicate cultivated cannabis on DOI lands and, when possible, support the apprehension of individuals engaged in the illegal activity. Eradication/suppression procedures may include the responsible use of herbicides such as "Paraquat."

A Departmentwide approach is necessary for optimum use of resouces and effectiveness. The Chief, Division of Enforcement and Security Management (DESM), Office of Administrative Services, will coordinate all Departmental efforts and provide interagency liaison when necessary. Each bureau or office will develop a plan for the detection and control of illicit drug activity. Heads of bureaus or offices will appoint a cannabis control coordinator with policy and operations authority in their headquarters office. Field coordinators with law enforcement backgrounds will be designated by the bureaus or offices to implement planning and provide effective liaison with other Federal, State, and local authorities.

The bureau planning effort will require the involvement of interagency agreements, available resources, and jurisdictional understandings. The plan will address, as a minimum, the following categories:

Problem Identification. The detection and inventory of cultivated cannabis on DOI lands was initiated in June 1982 by the Assistant Secretary - Policy, Budget and Administration memo to Heads of Bureaus and Offices. (See attached.)

An extensive new field survey of lands suitable for potential cannabis cultivation will be conducted by each bureau to update this 1982 survey including interdiction activity occurring on DOI lands. Where cannabis is found, locations will be identified by latitude and longitude and by township, range, and 1/4 section.

The bureau or office cannabis coordinator will maintain an index map showing the cannabis locations for use and reference by the Department. A standard quadriangle map no larger than 1:100,000 scale is recommended since the information will eventually be transferred to a map of this scale.

Surveying techniques should consider the use of aircraft (bureau owned, contract, or interagency) particularly the Office of Aircraft Services for special scheduling assistance where appropriate.

Bureau directors will ensure that the bureau staff and field locations take immediate actions to report any known or suspected locations of cultivated cannabis plants not later than COB August 17, 1983. They will also ensure that a thorough inventory of all probable cannabis locations will be conducted. Survey reports of all DOI jurisdictions will be forwarded to DOI/DESM no later than COB October 14, 1983.

Reporting. In order to respond to requirements of the Executive Office of the President and Congress, monthly reports of detection, eradication, and associated law enforcement action will be prepared in writing and sent to the Chief, DESM, in room 5426. The reports will reflect the acre and fractions thereof as the standard measure for cultivated areas with the number of cannabis plants per area plot and wet or dry weight of the plants (i.e., 1/3 acre with 37 plants, .38 metric ton [M.T.] wet weight). Special note should be made in the report if the cannabis detected or eradicated was Sinsemilia.

Each plot is to be identified by latitude and longitude coordinates and, where possible, township, range, and 1/4 section. All incidents involving arrests for illegal cultivation of cannabis or any interdiction of controlled substances on DOI jurisdictions are to be telephonically reported directly to the DESM within five working days of the arrest. A copy of a bureau incident report form or the attached report format will be delivered to DESM within 15 working days of the incident.

The following standard of weights and measures will be used by DOI employees reporting cannabis activity:

-- Size of plot or area involved by acre.

— Number of plants per plot.

-- All Federal weight estimates will be given in metric tons classified as wet or dry at the time of measurement.

-- For interdiction and seized controlled substances, metric weight units are to be used.

Bureaus or offices who have employees in field locations will require reports of cannabis cultivation in any area in the vicinity of DOI lands. Upon receipt of such reports, the information should be recorded and a copy provided to the nearest Drug Enforcement Administration (DEA) and State or local enforcement agency.

Local DEA agents are to be contacted for their reporting requirements and a continuous line of communications established regarding appropriate handling and disposition of all controlled substances. There are 40 DEA domestic cannabis coordinators in the U.S.

Training. Each bureau and office will immediately establish a cannabis identification training program or arrange for that training for all appropriate field personnel to be conducted by qualified Federal, State, or local authorities. Training courses for field employees will include, but not be limited to, personal jeopardy prevention, evasion, and reporting techniques.

Employee/Visitor/User Safety. Each bureau will develop a public information/awareness program consistent with the scope of the cannabis cultivation problem. A non-employee oriented cannabis identification and reporting program should be initiated by each bureau.

Press Coverage. The Departmental cannabis policy regarding media releases and press contacts will be under the direct guidance of the Director of Public Affairs. Enforcement agents will coordinate all media contacts with the bureau Public Affairs Office and are to emphasize the State or local law enforcement agency involvement when cooperatively involved in a law enforcement or eradication effort within DOI jurisdictions.

Law enforcement activity and the eradication of cannabis from the public domain is news worthy and should be actively publicized where significant progress is being realized. Copies of press releases will be forwarded to DESM prior to issuance.

Freedom of Information Act (FOIA) Requests. Freedom of Information Requests pursuant to planning efforts and data relative to drug reduction on Federal lands will be coordinated with bureau level FOIA coordinators. Each bureau response to a FOIA request will be passed to the Departmental FOIA coordinator, Mr. Douglas Baldwin and coordinated with the Chief, DESM, and the Solicitor's office for surnaming purposes prior to release.

Cooperation. The bureaus will develop strong cooperative relationships with other Federal, State, and local law enforcement agencies in this major effort to eradicate and prevent illicit cultivation of cannabis on public land. If multiagency coordination with Federal agencies at the headquarters level is deemed necessary, DESM should be notified prior to contact. Bureau reporting procedures should include information on cannabis plots located on adjacent lands and timely notification to appropriate enforcement agencies. Should a field situation develop to a condition beyond the capabilities of the local authorities and it is necessary to deploy additional forces, i.e., U.S. Marshals or use of military equipment, DESM is to be notified immediately.

The resources of the military should be utilized as appropriate where there is a shortage of specialized equipment or conveyance. (See P.L. 97-86, Chapter 18 for statute authority.)

Eradication. The method of eradication of cultivated cannabis may vary depending on considerations of accessibility, the density and quantity, fragility of adjacent resources, and available manpower. Plants may be destroyed by manual means, flame devices, or chemical herbicides applied by hand sprayers or by aircraft. Compliance with Federal, State, and local environmental laws regarding the application of herbicides may be aided by contact and coordination with the DESM. The President supports the use of paraquat for the eradication of the cannabis plant in this project where appropriate. However, before use of paraquat by any Interior employee, the completion of a county/State certification is mandatory. Assistance regarding the national environmental impact statement for the use of paraquat may be requested from DESM.

BUREAU PLANS

Each bureau or office is to develop policies, procedures, and documented action planning to address the categories listed above for appropriate direction in drug supply reduction. Even though several bureaus have developed planning within their organizational framework, these plans must now be modified to identify a separate and distinct program. Plans are to include use of available resources and budget commitments for FY 1984 with supporting target dates. DESM is coordinating with the Departmental budget offices concerning possible budget supplementals for FY 1984. Further information will be provided under separate cover.

Action should include, but not be limited to, coordination with local non-Federal enforcement authorities and local representatives of the DEA. Every effort must be extended to assist local authorities and implement at least a reasonable portion of the Departmental Plan prior to September 15, 1983.

These plans and implementing direction are to be presented to the Department (DESM, room 5426) for concurrence no later than COB September 15, 1983. For additional information or assistance, please contact Mr. Harry DeLashmutt on 343-6319.

A new Departmental Manual release in Chapter 446 will be developed to include these requirements in the near future.

United States Department of the Interior
INCIDENT RECORD - Drug Supply Reduction

Organization

Location of Incident | When did it occur | Mo. | Day | Year | Time

Nature of Incident

Reported by | Address | Phone

Title

Details of Incident

Number of Arrests | Case Disposition | Open | Closed

Weapons Seized | Yes | No | Plots Eradicated | Total Number

Signature (Reporter) | Approved (Name and Title)

QUESTIONS SUBMITTED BY SENATOR MARK O. HATFIELD

Wilderness Leasing Ban

Question: Could you please tell the Committee how many acres of the BLM lands outside wilderness study areas are currently under lease for onshore minerals? Could that information be provided on a state-by-state basis, indicating the category of mineral lease (oil and gas, coal, etc.), the number of leases, and the total acreage covered by the leases?

Answer: A list of leases by State as of January 23, 1985, is attached (Attachment 1).

Question: How many of the leases covered in the previous question have had exploration conducted on them?

Answer: BLM does not attempt to maintain a comprehensive nationwide data base regarding leased Federal lands on which energy and minerals exploration has been conducted. After lease issuance, BLM's resources are directed to the monitoring of operations for compliance with regulations and lease stipulations and, where applicable, to production verification.

Question: How much of the BLM WSA acreage was already leased prior to the wilderness leasing ban? Could you provide this information on a state-by-state basis?

Answer: Attachment 2 shows the most recent information we have. It is current as of February 1981.

Question: How many WSA's have had no leases issued for any portion of the WSA? Is it feasible to list these WSA's by name?

Answer: Most WSA's have had no leases issued. We do not, however, have specific information.

Question: In how many cases where leases were issued in WSA's has the leasee applied for a permit to drill (APD) or other exploratory activity (e.g., seismic)? How many of these were approved by BLM or rejected by BLM?

Answer: The Bureau has 41 applications for permit to drill (APD's) in WSA's which have not been issued pending further determinations and adjudicative actions. This number has remained constant since December 1982.

Land Exchange

Question: Compared to FY 85, what is the FY 86 budget impact of the administration's proposed land exchange with the U.S. Forest Service? Please identify all cost-savings, if any, associated with administration, management, personnel, etc.

Answer: The combined FY 1986 budgets of the two agencies contain $16.2 million to begin implementation of the interchange program. The bulk of this ($14.4 million) is in the Forest Service

Budget Proposal, and $1.8 million is included in BLM's Budget request. The total amount should be adequate for any steps anticipated during FY 1986. Many of these steps, of course, would require Congressional authorization. The positive cost saving effects of any steps taken during FY 1986 would probably not be felt until late in the fiscal year. Therefore, savings projected by the interchange program would, in all likelihood, not begin to appear noticeable until FY 1987.

No implementation costs have been budgeted in FY 1985, because BLM will not take any actions to implement the program until authorizing legislation is passed, which is not expected until FY 1986. The programmatic redistribution effects of the interchange on the budget of the two agencies cannot be fully determined until after the legislative proposal has been developed in final form.

Question: Please identify the total number of personnel and associated manhours which have already been expended in preparation for the exchange. How many additional manhours will be expended to complete the regional hearing process and transmittal of legislation to the Congress?

Answer: Current FY 1985 estimates are that BLM has expended about $1.5 million on planning work for the interchange proposal. Although no estimates of workhours expended for interchange planning have been made, staff time has been the main type of expenditure incurred during interchange planning, and this trend is expected to continue for the remainder of FY 1985. The management staff within BLM has been the major contributor to planning for the interchange proposal. BLM managers routinely devote a significant portion of their time to planning, oversight, and coordination of various projects and programs to assure effective and efficient operations. Although the planning for the interchange has been in-depth, it is generally simillar to the management input required for other major programs or initiatives. Approximately $100,000 will be used by BLM to complete the regional hearing process and to prepare the legislation to be proposed to Congress.

Question: Please identify any previous exchanges or transfers, and the number of personnel affected, which have been conducted by BLM under the Economic Recovery Act authority.

Answer: The Economy Act, 31 U.S.C. 1535, provides the authority for one government agency to improve the efficiency of its operations by obtaining necessary goods and services from another government agency. Since its enactment in 1932, the Economy Act has worked well throughout the Executive Branch to foster government efficiency and economy. We are aware of no instance in which the Economy Act has been used in a matter as extensive as the interchange program or for any other exchange or transfer involving BLM.

The Economy Act was cited as the authority under which we would achieve "dual hatting" of managers and other employees on a selected basis. However, as we have moved further in developing the proposal, we have decided that it is not appropriate for us to proceed in that manner. We also recognized that such a course of action might give the impression that we were proceeding ahead of congressional consideration of the proposal. We have not, and will not, begin implementation until authorizing legislation is enacted.

Question: What would be the impact on the future of the exchange if Congress were to temporarily prohibit the use of funds for "double-hatting", (e.g. House Supplemental language)?

Answer: Our original objection to the language contained in the House version of the FY 1985 Supplemental Appropriations Bill was based on the apprehension that the language might prohibit or be interpreted as prohibiting the two agencies from taking management improvement actions which have merit in their own right, apart from the interchange proposal. If the report language could be expanded or clarified to make it clear that there is no intention to prohibit actions such as these, our earlier objection would be satisfied.

During earlier stages of the interchange proposal, we did consider different alternatives or actions that might be implemented prior to legislation, including "double-hatting." We have since realized that the actions we could take under existing authority were limited. We have also recognized that some actions might give the impression that we were proceeding ahead of authorizing legislation. As this is not our intention, we have decided against such actions. There are no line officer details planned prior to enactment of authorizing legislation.

Question: The O&C counties, for sometime now, have made their own investments in BLM management in the form of the so-called "plow-back" fund. What will be the disposition of these investments (such as in BLM offices) if O&C lands were to come under the auspices of the USFS?

Answer: At the time that management of the O&C Grant Lands is transferred from BLM to the Forest Service, the responsibility for the affected BLM office buildings and related public investments would also shift to the Forest Service. Based on the proposed new organizational structure to result from the interchange, the Forest Service would make the most efficient use of facilities transferred from BLM. Needed office buildings and other structures such as warehouses, wareyards, and others would be retained.

Acquisitions

Question: Please identify and describe those lands in Oregon which have been authorized by the BLM but not yet acquired.

Answer: Exchange of a 5.1-acre tract of land owned by the State of Oregon remains to be completed within the Yaquina Head ONA project. All acquisitions for the Rogue Wild and Scenic River project have been completed. Although the Owhyee River in Oregon has been designated a wild and scenic river, no appropriations for land acquisition have been requested or provided.

ATTACHMENT 1

TABLE 78.--Continuing mineral leases, licenses, agreements, and permits by State as of January 23, 1985

State	Number	Acres
Alabama		
Noncompetitive (PD) oil and gas leases	102	17,664
Noncompetitive (ACQ) oil and gas leases	263	295,436
Simultaneous (PD) oil and gas leases	128	21,193
Simultaneous (ACQ) oil and gas leases	74	166,992
Competitive (PD) oil and gas leases	7	406
Competitive (ACQ) oil and gas leases	1	516
Hardrock leases	1	40,000
Total Alabama	576	542,207
Arizona		
Noncompetitive (PD) oil and gas leases	1,624	3,312,220
Noncompetitive (ACQ) oil and gas leases	20	33,491
Simultaneous (PD) oil and gas leases	238	644,337
Noncompetitive geothermal lease	8	16,742
Special leasing acts leases	4	2,083
Mineral material free use permits	9	437
Total Arizona	1,903	4,009,310
Arkansas		
Noncompetitive (PD) oil and gas leases	334	599,341
Noncompetitive (ACQ) oil and gas leases	562	710,708
Simultaneous (PD) oil and gas leases	81	56,148
Simultaneous (ACQ) oil and gas leases	159	112,198
Competitive (PD) oil and gas leases	15	1,243
Competitive (PD) oil and gas leases	92	33,546
Hardrock leases	13	14,230
Competitive (hardrock)leases	4	566
Total Arkansas	1,260	1,527,980
California		
Noncompetitive (PD) oil and gas leases	1,267	3,030,575
Noncompetitive (ACQ) oil and gas leases	60	8,551
Simultaneous (PD) oil and gas leases	1,140	456,666
Simultaneous (ACQ) oil and gas leases	12	1,221
Competitive (PD) oil and gas leases	209	40,724
Competitive (ACQ) oil and gas leases	3	43
Oil and gas unit agreement	1	1,540
Geothermal unit agreement	1	----
Noncompetitive geothermal leases	218	365,790
Competitive geothermal leases	143	254,814
Sodium leases	6	8,778
Hardrock leases	1	2,380
Prospecting permits (PD)	3	2,625
Prospecting permits (ACQ)	2	1,181
Preference right leases	32	28,250
Mineral use permits	1	40
Total California	3,099	4,203,178

Colorado

Noncompetitive (PD) oil and gas leases	2,589	3,907,232
Noncompetitive (ACQ) oil and gas leases	144	84,134
Special acts oil and gas leases	40	4,530
Simultaneous (PD) oil and gas leases	5,241	5,369,474
Simultaneous (ACQ) oil and gas leases	402	260,289
Competitive (PD) oil and gas leases	454	132,905
Competitive (PD) oil and gas leases	13	2,584
Fraction/future interest (ACQ) leases	11	2,914
Oil and gas unit agreements	1	1,400
Oil and gas communitization agreements	60	21,290
Noncompetitive geothermal leases	1	2,242
Coal exploration licenses	7	26,737
Competitive coal leases	38	30,772
Noncompetitive coal leases	40	57,741
Hardrock leases	8	3,771
Total Colorado	9,049	9,908,015

Florida

Noncompetitive (PD) oil and gas leases	17	5,600
Noncompetitive (ACQ) oil and gas leases	27	61,124
Simultaneous (PD) oil and gas leases	19	6,509
Simultaneous (ACQ) oil and gas leases	238	523,514
Phosphate lease	5	4,001
Total Florida	306	600,748

Georgia

Noncompetitive (ACQ) oil and gas leases	58	123,794
Hardrock leases	3	352
Preference right leases	2	352
Total Georgia	63	124,498

Idaho

Noncompetitive (PD) oil and gas leases	2,120	4,996,658
Noncompetitive (ACQ) oil and gas leases	36	45,850
Simultaneous (PD) oil and gas leases	167	500,810
Oil and gas unit agreements	7	141,170
Noncompetitive geothermal leases	16	23,583
Competitive geothermal leases	4	5,901
Phosphate leases	8	5,334
Hardrock leases	8	79,580
Other mineral (ACQ) leases	1	40
Prospecting permits (PD)	5	1,951
Prospecting permits (ACQ)	26	5,023
Preference right leases	33	13,373
Competitive (hardrock) leases	42	25,411
Mineral use permits	5	275
Total Idaho	2,478	5,844,959

Illinois

Competitive (ACQ) oil and gas leases	1	10
All leasables except oil and gas leases	1	2,328
Hardrock leases	11	5,929
Total Illinois	13	8,267

Indiana		
Noncompetitive (ACQ) oil and gas leases----	1	276
Simultaneous (ACQ) oil and gas leases------	1	83
Total Indiana---------------------------	2	359
Kansas		
Noncompetitive (PD) oil and gas leases-----	6	1,473
Noncompetitive (ACQ) oil and gas leases----	58	77,260
Simultaneous (PD) oil and gas leases-------	46	12,474
Simultaneous (ACQ) oil and gas leases------	18	15,644
Competitive (PD) oil and gas leases--------	12	1,476
Competitive (ACQ) oil and gas leases-------	4	640
Competitive Sioux/Order oil and gas leases--------------------------------	1	160
Fraction/future interest (ACQ) leases------	1	160
Oil and gas unit agreements---------------	1	3,800
Total Kansas----------------------------	147	113,087
Kentucky		
Noncompetitive (ACQ) oil and gas leases----	71	51,274
Simultaneous (PD) oil and gas leases-------	10	8,026
Competitive (ACQ) oil and gas leases-------	4	528
Total Kentucky--------------------------	85	59,828
Louisiana		
Noncompetitive (PD) oil and gas leases-----	25	1,320
Noncompetitive (ACQ) oil and gas leases----	72	26,376
Simultaneous (PD) oil and gas leases-------	133	10,545
Simultaneous (ACQ) oil and gas leases-------	194	157,104
Competitive (PD) oil and gas leases--------	41	4,834
Competitive (ACQ) oil and gas leases-------	18	10,114
Total Louisiana-------------------------	483	210,293
Maryland		
Noncompetitive (ACQ) oil and gas leases----	9	13,632
Simultaneous (ACQ) oil and gas leases------	3	1,925
Total Maryland--------------------------	12	15,557
Michigan		
Noncompetitive (PD) oil and gas leases-----	18	4,818
Noncompetitive (ACQ) oil and gas leases----	222	108,392
Simultaneous (PD) oil and gas leases-------	54	58,847
Simultaneous (ACQ) oil and gas leases------	224	182,563
Competitive (PD) oil and gas leases--------	2	160
Competitive (ACQ) oil and gas leases-------	9	718
Hardrock leases--------------------------	1	160
Total Michigan--------------------------	530	355,658
Minnesota		
Hardrock leases-------------------------	10	9,877

Mississippi		
Noncompetitive (PD) oil and gas leases-----	84	9,261
Noncompetitive (ACQ) oil and gas leases----	182	49,106
Simultaneous (PD) oil and gas leases-------	99	12,988
Simultaneous (ACQ) oil and gas leases------	841	503,009
Competitive (PD) oil and gas leases--------	5	157
Competitive (ACQ) oil and gas leases-------	63	14,134
Total Mississippi--------------------------	1,274	588,655
Missouri		
Competitive (ACQ) oil and gas leases-------	1	1,329
All leasables except oil and gas leases----	4	7,881
Hardrock leases----------------------------	89	119,911
Prospecting permits (ACQ)------------------	5	6,504
Preference right leases--------------------	4	5,288
Total Missouri-----------------------------	103	140,913
Montana		
Noncompetitive (PD) oil and gas leases-----	4,751	8,008,893
Noncompetitive (ACQ) oil and gas leases----	270	142,742
Special acts oil and gas leases------------	3	135
Simultaneous (PD) oil and gas leases-------	5,495	6,102,891
Simultaneous (ACQ) oil and gas leases------	1,186	1,229,425
Competitive oil and gas leases (undesig.)--	1	280
Competitive (PD) oil and gas leases--------	202	48,297
Competitive (ACQ) oil and gas leases-------	8	115
Coal leases (PD)---------------------------	1	524
Coal exploration licenses------------------	7	21,382
Competitive coal leases--------------------	4	4,576
Noncompetitive coal leases-----------------	5	8,891
Coal licenses to mine----------------------	3	100
Phosphate leases---------------------------	1	832
Prospecting permits (PD)-------------------	23	37,399
Mineral material free use permits----------	4	293
Total Montana------------------------------	11,964	15,606,775
Nebraska		
Noncompetitive (PD) oil and gas leases-----	111	27,557
Noncompetitive (ACQ) oil and gas leases----	97	115,360
Special acts oil and gas leases------------	1	1
Simultaneous (PD) oil and gas leases-------	127	71,979
Simultaneous (ACQ) oil and gas leases------	32	40,411
Competitive (PD) oil and gas leases--------	10	3,400
Competitive Sioux Order oil and gas leases------------------------------------	25	11,420
Prospecting permits (ACQ)------------------	20	25,405
Total Nebraska-----------------------------	423	295,533
Nevada		
Noncompetitive (PD) oil and gas leases-----	5,258	12,125,528
Noncompetitive (ACQ) oil and gas leases----	1	393
Simultaneous (PD) oil and gas leases-------	1,571	2,378,930
Competitive oil and gas leases (undesig.)--	9	720
Oil and gas unit agreements----------------	26	452,030
Geothermal unit agreements-----------------	5	68,243
Noncompetitive geothermal leases-----------	353	615,788
Competitive geothermal leases--------------	45	79,244

Sodium leases	19	45,996
Other mineral (PD) leases	1	2,400
Prospecting permits (PD)	6	12,786
Special leasing acts leases	1	400
Community pit	3	258
Mineral material free use permits	2	100
Total Nevada	7,300	15,782,816
New Hampshire		
Hardrock leases	2	150
New Mexico		
Noncompetitive (PD) oil and gas leases	8,479	9,276,123
Noncompetitive (ACQ) oil and gas leases	142	251,079
Special acts oil and gas leases	1	320
Simultaneous (PD) oil and gas leases	7,208	5,853,226
Simultaneous (ACQ) oil and gas leases	96	67,265
Competitive oil and gas leases (undesig.)	120	23,477
Competitive (PD) oil and gas leases	1,437	325,373
Competitive (ACQ) oil and gas leases	7	275
Noncompetitive geothermal leases	52	71,743
Competitive geothermal leases	38	59,598
Coal exploration licenses	5	57,205
Competitive coal leases	1	160
Noncompetitive coal leases	38	81,759
All leasables except oil and gas	18	38,223
Potassium leases	126	169,670
Sodium leases	3	722
Sulphur leases	4	2,560
Other mineral (PD) leases	1	2,556
Prospecting permits (PD)	26	24,133
Mineral material free use permits	2	81
Total New Mexico	17,804	16,305,548
New York		
Noncompetitive (ACQ) oil and gas leases	9	11,215
North Carolina		
Noncompetitive (ACQ) oil and gas leases	138	258,188
Hardrock leases	2	708
Total North Carolina	140	258,896
North Dakota		
Noncompetitive (PD) oil and gas leases	144	43,002
Noncompetitive (ACQ) oil and gas leases	345	308,289
Special acts oil and gas leases	5	336
Simultaneous (PD) oil and gas leases	549	249,624
Simultaneous (ACQ) oil and gas leases	926	828,671
Competitive (PD) oil and gas leases	37	8,030
Competitive (ACQ) oil and gas leases	33	4,798
Fraction/future interest (ACQ) leases	3	1,115
Coal leases (PD)	1	380
Coal exploration licenses	1	7,208
Competitive coal leases	13	10,390
Noncompetitive coal leases	1	40
Preference right leases	2	3,512
Total North Dakota	2,060	1,465,395

Ohio		
Noncompetitive (PD) oil and gas leases	1	55
Noncompetitive (ACQ) oil and gas leases	49	17,803
Simultaneous (ACQ) oil and gas leases	4	1,938
Competitive (ACQ) oil and gas leases	18	2,505
Total Ohio	72	22,301
Oklahoma		
Noncompetitive (PD) oil and gas leases	293	53,212
Noncompetitive (ACQ) oil and gas leases	375	274,805
Simultaneous (PD) oil and gas leases	384	58,812
Simultaneous (ACQ) oil and gas leases	211	104,688
Competitive oil and gas leases (undesig.)	22	1,452
Competitive (PD) oil and gas leases	287	19,523
Competitive (ACQ) oil and gas leases	81	20,339
Fraction/future interest (ACQ) leases	2	520
Coal exploration licenses	2	7,642
Competitive coal leases	3	3,078
Noncompetitive coal leases	46	77,319
Other mineral (PD) leases	1	480
Total Oklahoma	1,707	621,870
Oregon		
Noncompetitive (PD) oil and gas leases	1,676	3,768,348
Noncompetitive (ACQ) oil and gas leases	80	91,520
Simultaneous (PD) oil and gas leases	192	383,140
Simultaneous (ACQ) oil and gas leases	11	5,944
Geothermal unit agreements	2	86,875
Noncompetitive geothermal leases	330	611,701
Competitive geothermal leases	34	66,402
Community pit	29	983
Mineral material free use permits	2	7
Total Oregon	2,356	5,014,920
Pennsylvania		
Noncompetitive (ACQ) oil and gas leases	2	420
Simultaneous (ACQ) oil and gas leases	1	285
Total Pennsylvania	3	705
South Carolina		
Noncompetitive (ACQ) oil and gas leases	11	19,855
Hardrock leases	5	4,572
Total South Carolina	16	24,427
South Dakota		
Noncompetitive (PD) oil and gas leases	345	381,009
Noncompetitive (ACQ) oil and gas leases	161	205,254
Simultaneous (PD) oil and gas leases	411	419,407
Simultaneous (ACQ) oil and gas leases	85	87,617
Competitive (PD) oil and gas leases	14	2,157
Total South Dakota	1,016	1,095,444

Tennessee		
Noncompetitive (ACQ) oil and gas leases	160	308,821
Simultaneous (ACQ) oil and gas leases	13	21,558
Hardrock leases	1	785
Total Tennessee	174	331,164
Texas		
Noncompetitive (PD) oil and gas leases	19	3,439
Noncompetitive (ACQ) oil and gas leases	206	249,138
Simultaneous (PD) oil and gas leases	4	664
Simultaneous (ACQ) oil and gas leases	221	119,897
Competitive (PD) oil and gas leases	1	449
Competitive (ACQ) oil and gas leases	76	14,003
Fraction/future interest (ACQ) leases	3	4,844
Coal exploration licenses	1	6,323
Noncompetitive coal leases	1	6,445
Total Texas	532	405,202
Utah		
Noncompetitive (PD) oil and gas leases	7,108	10,763,900
Noncompetitive (ACQ) oil and gas leases	119	71,361
Simultaneous (PD) oil and gas leases	6,840	8,845,795
Simultaneous (ACQ) oil and gas leases	23	12,373
Competitive (PD) oil and gas leases	381	141,000
Competitive (ACQ) oil and gas leases	1	160
Noncompetitive geothermal leases	72	118,070
Competitive geothermal leases	31	52,623
Coal leases (PD)	212	323,959
Coal exploration licenses	11	52,512
Competitive coal leases	12	9,508
Noncompetitive coal leases	2	1,152
All leasables except oil and gas	1	2,402
Phosphate leases	9	14,555
Potassium leases	64	137,430
Other mineral (PD) leases	13	13,210
Prospecting permits (PD)	12	22,845
Prospecting permits (ACQ)	36	83,444
Preference right leases	3	7,545
Competitive (hardrock) leases	1	1
Community pit	5	530
Total Utah	14,956	20,674,375
Virginia		
Noncompetitive (PD) oil and gas leases	2	269
Noncompetitive (ACQ) oil and gas leases	380	578,029
Simultaneous (PD) oil and gas leases	1	476
Simultaneous (ACQ) oil and gas leases	4	5,945
Competitive (ACQ) oil and gas leases	2	427
All leasables except oil and gas	1	355
Hardrock leases	1	41
Total Virginia	391	585,542
Washington		
Noncompetitive (PD) oil and gas leases	647	1,044,198
Noncompetitive (ACQ) oil and gas leases	175	346,512
Simultaneous (PD) oil and gas leases	6	3,555

Noncompetitive geothermal leases----------	25	43,949
Prospecting permits (ACQ)----------------	6	2,314
Total Washington------------------------	859	1,440,528
West Virginia		
Noncompetitive (ACQ) oil and gas leases----	99	121,864
Simultaneous (PD) oil and gas leases-------	2	212
Simultaneous (ACQ) oil and gas leases------	22	24,398
Competitive (ACQ) oil and gas leases------	1	80
Total West Virginia---------------------	124	146,554
Wisconsin		
All leasables except oil and gas-----------	1	2,548
Hardrock leases-------------------------	25	23,747
Prospecting permits (ACQ)----------------	1	240
Total Wisconsin-------------------------	27	26,535
Wyoming		
Noncompetitive (PD) oil and gas leases-----	5,776	5,642,713
Noncompetitive (ACQ) oil and gas leases----	96	29,681
Special acts oil and gas leases-----------	8	879
Simultaneous (PD) oil and gas leases------	25,944	17,179,867
Simultaneous (ACQ) oil and gas leases------	288	106,482
Competitive oil and gas leases (undesig.)--	9	949
Competitive (PD) oil and gas leases-------	1,332	252,230
Competitive (ACQ) oil and gas leases------	35	5,997
Oil and gas unit agreements--------------	1	40
Noncompetitive geothermal leases----------	2	4,644
Coal leases (PD)------------------------	22	58,612
Coal leases (ACQ)-----------------------	2	200
Coal exploration licenses----------------	20	53,824
Competitive coal leases------------------	7	28,463
Noncompetitive coal leases---------------	1	640
All leasables except oil and gas----------	6	2,266
Sodium leases---------------------------	22	29,080
Other mineral (ACQ) leases---------------	1	1
Prospecting permits (PD)-----------------	19	25,514
Prospecting permits (ACQ)----------------	7	1,306
Preference right leases------------------	8	18,206
Competitive (hardrock) leases-------------	1	640
Community pit---------------------------	4	4
Mineral material free use permits---------	85	7,179
Total Wyoming	33,696	23,449,417
Grand total----------------------------	117,024	131,828,701

Note:--PD = public domain (land); ACQ = acquired (land).

Source: Automated Land and Minerals Record System, Bureau of Land Management.

Data as of February 1981. Pre-FLPMA leases have continued to expire since then, but we do not have any revised totals to reflect this.

MINERAL LEASING ACTIVITIES ON LANDS UNDER WILDERNESS REVIEW

TYPE OF LEASE	CATEGORY I PRE-FLPMA LEASES IN WSA's		CATEGORY II -POST-FLPMA LEASES IN WSA'S							
			TOTAL *		WITH WILDERNESS STIPULATION		NO SURFACE OCCUPANCY		WITHOUT WILDERNESS STIP. OR NO SURFACE OCCUPANCY	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres	Number	Acres
A. Oil and Gas										
Alaska	0									
Arizona	16	14,850	210	335,585	106	181,923	1	1,280	103	153,662
California	----	----	12	7,004	12	7,004	4	2,818	----	----
Colorado	351	232,875	77	27,179	36	22,663	22	10,069	31	10,254
Idaho	6	7,256	74	78,393	37	35,504	11	4,597	30	37,373
Montana	183	157,655	130	117,751	43	46,355	8	8,926	79	69,476
Nevada	145	234,498	884	1,979,897	555	1,306,416	----	----	329	673,481
New Mexico	85	132,353	99	180,225	35	70,649	8	7,974	56	100,499
Oregon	----	----	12	14,188	12	14,188	----	----	----	----
Utah	1,132	1,464,424	746	1,205,490	353	620,031	231	431,025	227	310,192
Wyoming	490	280,000	181	109,500	73	50,200	170	100,700	2	630
Eastern States	0									
Sub Totals	2,408	2,523,911	2,425	4,055,212	1,262	2,354,934	455	567,389	857	1,355,567

*Category II - Total column excludes overlapping leases containing both a wilderness stipulation and/or a no surface occupancy stipulation.

MINERAL LEASING ACTIVITIES ON LANDS UNDER WILDERNESS REIVEW

TYPE OF LEASE	CATEGORY I PRE-FLPMA LEASES IN WSA'S		CATEGORY II-POST-FLPMA LEASES IN WSA'S							
			TOTALS *		WITH WILDERNESS STIPULATION		NO SURFACE OCCUPANCY		WITHOUT WILDERNESS STIP. OR NO SURFACE OCCUPANCY	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres	Number	Acres
B. Coal										
Alaska	0									
Arizona	0									
California	0									
Colorado	4	2,156								
Idaho	0									
Montana	0									
Nevada	0									
New Mexico	2	1,200								
Oregon	0									
Utah	12	23,986								
Wyoming	0									
Eastern States	0									
Sub Totals	18	27,342								

* Category II - Total column excludes overlapping leases containing both a wilderness stipulation and/or a no surface stipulation.

MINERAL LEASING ACTIVITIES ON LANDS UNDER WILDERNESS REVIEW

TYPE OF LEASE	CATEGORY I PRE-FLPMA LEASES IN WSA'S		CATEGORY II-POST-FLPMA LEASES IN WSA'S							
			TOTALS *		WITH WILDERNESS STIPULATION		NO SURFACE OCCUPANCY		WITHOUT WILDERNESS STIP. OR NO SURFACE OCCUPANCY	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres	Number	Acres
C. Geothermal										
Alaska	0									
Arizona	0									
California	0									
Colorado	0									
Idaho	3	2,605	2	410	2	410	----	----	----	----
Montana	0									
Nevada	22	37,236	61	119,706	53	104,008	2	3,194	8	15,698
New Mexico	0									
Oregon	12	18,747	33	54,540	10	21,758	----	----	23	32,782
Utah	0	----	1	2,520	----	----	----	----	1	2,520
Wyoming	0									
Eastern States	0									
Sub Totals	37	58,588	97	177,176	65	126,176	2	3,194	32	51,000

*Category II - Total column excludes overlapping leases containing both a wilderness stipulation and /or a no surface occupancy stipulation.

QUESTIONS SUBMITTED BY SENATOR MARK ANDREWS

Oil and Gas Leasing

Question: Why has the Bureau of Land Management included a prohibition on oil and gas leasing and permitting on onshore lands through the FY '86 APPROPRIATIONS PROCESS?

Answer: The policy of the Administration is to open lands to leasing and development in an environmentally sound manner. We do favor excluding lands which are under consideration for designation as wilderness from activities which have the potential to impair their suitability for designation until such time as the lands involved are no longer under consideration for inclusion in the wilderness system. When the resources under such lands, however, are being drained of oil and gas from a well on adjacent land, we believe that the Secretary has the responsibility to protect the public's interest by having authority to issue leases on designated wilderness and wilderness study areas so that the Government may receive royalties on the resource being drained. We also see no reason to treat administratively designated wilderness study areas differently from congressionally designated study areas.

Under the language of the proposed amendment, the leases would be issued with the restriction that no surface occupancy would be allowed.

Wilderness Study Area Recommendations

Question: The Bureau of Land Management must make recommendations on whether the wilderness candidate areas are better suited for wilderness or for multiple uses, including grazing, mineral development, recreational uses, etc. How can BLM's studies of these wilderness candidate areas be considered complete or determine these lands' best and highest use without meaningful geologic data?

Answer: As part of the wilderness study process, available geologic data are considered in making wilderness recommendations. The sources of these data include evaluations and reports by the U.S. Geological Survey and the Bureau of Mines as well as the BLM's GEM system. We believe this information provides a sound base for making suitability recommendations.

QUESTIONS SUBMITTED BY SENATOR DENNIS DECONCINI

Phoenix Training Center

Question: I understand that the rescissions in the 1985 budget had the effect of cancelling long-term training at the Phoenix Training Center. What is planned at the Phoenix Training Center for 1986 in terms of FTE and funding and compare to that of 1984 and 1985?

Answer: The FY 1986 work plans for the Phoenix Training Center (PTC) are still in the developmental stage. The ultimate funding and FTE allocation for the Center will largely depend on an analysis of these plans in relation to the level of appropriations made to the Bureau for FY 1986 and funding needed to meet mandated Congressional, Secretarial and Bureau program priorities. Thus, it is premature to make a comparison with prior year funding.

Question: What are the Bureau's long-term goals for the Phoenix Training Center?

Answer: In general, the Bureau's long-term goal for the PTC continues to be that of providing BLM with up-to-date technical and managerial training programs related to the multiple use of public lands through the use of the most efficient and effective training delivery systems. However, recent evaluations and studies of the Bureau's training program (including PTC) have indicated that the time had come for a change in our system of training delivery; that the Bureau's emphasis on centralized, formal classroom training was draining travel funds at too great a rate and preventing many employees from receiving needed training. As a result, the Bureau has decided to reorganize the Center to provide training packages for decentralized delivery. This reorganization was begun in FY 1985. In addition, the Center will also provide other services such as performance analyses to identify training needs, curriculum design and development and some on-site, centralized training. In short, we believe that the PTC will continue to play a vital role in the Bureau's future, but the nature of that role needs to change.

Voluntarism

Question: The Bureau's efforts in encouraging voluntarism have met with some success. What steps will the Bureau take to encourage a greater participation in voluntarism?

Answer: The Bureau will continue to publicize successful volunteer efforts, work one-on-one with groups who have assisted the Bureau in the past, and encourage new volunteer efforts through contacts with additional individuals, groups, and organizations. Particular attention will be directed to early identification of project-type work that lends itself to volunteer work so that local offices can initiate contacts with potential volunteers.

Energy and Minerals Management

Question: Energy and Minerals Management funding reflects an increase over the 1985 estimate. I understand that with the proposed BLM/Forest Service interchange program energy and minerals management for most of the Eastern States would go to the Forest Service. If this is correct, explain why a corresponding reduction in funding for the loss of these management responsibilities is not reflected in the 1986 budget.

Answer: The FY 1986 Management of Lands and Resources (MLR) appropriation request, of which energy and minerals management is a part, contains no representation of the programmatic effects of the BLM/FS interchange proposal. It was recognized during the budget formulation process that a considerable amount of planning and development analysis would be required to fully understand the programmatic effects of the proposal. Therefore, the only effects portrayed in the request are the estimated FY 1986 implementation costs (shown under the general administration activity within MLR).

However, based on the implementation planning done to date, we anticipate substantial savings ($115-120 million total net savings in the first 5 years for the two agencies combined) once the legislation necessary to implement the proposal is enacted and full implementation is achieved.

Question: The 1986 budget shows an increase in FTE for energy and minerals management. Explain where the additional FTE will be positioned, the disciplines involved and how they will be filled.

Answer: The requested increases in FTE are associated with the requested increases in funding for the energy and minerals programs. This funding will be used for workload accomplishment in BLM's energy and minerals subactivities which are, to varying degrees, labor specific, i.e., funding for personnel versus funding for contracts or equipment. Since FTE's are a measure of time expended by Bureau employees and not a measure of positions, the workyear capabilities represented by the FTE increases could be distributed very widely throughout the Bureau. The actual establishment or abolishment of positions is a decision made by BLM field managers based upon their judgments regarding workload magnitude and priority, type of work, existing organizational skills mix, and other factors.

From the additional program workload being addressed, it can reasonably be expected that other types of skills required will be additional geologists, petroleum engineers, petroleum engineering technicians (for inspections), mining engineers, some clerical support personnel, and possibly a few mineral economists or industry economists for resource evaluations and fair market value determination work. However, at this point in the process, we know only the degree to which the types of work for which increases are requested are labor-intensive, and, therefore, will require additional FTE as well as funding in order to complete the workload accomplishments as budgeted.

Lands and Realty Management

Question: Explain why there is a reduction in FTE associated with rights-of-way casework processing.

Answer: The total FTE budgeted for rights-of-way processing will not change significantly in FY 1986. The reduction shown in the Management of Lands and Resources appropriation for the rights-of-way program element is partially offset by an increase in the Service Charges, Deposits and Forfeitures appropriation from cost recoverable charges for processing rights-of-way cases.

Range Management

Question: Will there be any reduction in FTE in grazing management with the proposed reduction in funding in the 1986 budget?

Answer: We estimate that there will be a reduction of 19 FTE's from the FY 1985 Enacted to Date to the FY 1986 Estimate level associated with management improvement savings and reductions in Headquarters and State office program management staffing levels.

Range Improvement

Question: I understand that range improvement funds will be used exclusively for on-the-ground development and project survey and design. Maintenance of existing and future improvements will be the responsibility of the livestock operator. Explain what success the Bureau is having with cooperative management agreements with livestock operators for the maintenance of improvements in Arizona.

Answer: BLM's range improvement policy calls for assignment of maintenance to parties deriving the primary benefits, either through cooperative agreement or by decision if it is not possible to reach agreement.

In Arizona, maintenance responsibility for all range improvements where livestock operators are the primary beneficiaries has been transferred to the livestock operator (approximately 900 permittees/lessees). Assignment by decision was necessary in only two cases. A majority of the users have accepted the responsibility and are performing the maintenance in a satisfactory manner.

Resource Protection

Question: Provide details on the Bureau's plan to assign Rangers to all State Offices. Where will they be assigned organizationally and what will be the relationship of the Rangers to the state office law enforcement agents?

Answer: At this time, Bureau managers are evaluating the specific needs for assignment of law enforcement rangers to areas outside the California Desert Conservation Area (CDCA). This evaluation also includes the organizational placement of rangers and their relationship to the Bureau's special agents. It is anticipated that any additional rangers would be assigned on a priority basis to those areas which require a uniformed law enforcement presence to address specific, significant problems of criminal activity. Future assignments will also be part of a flexible ranger program which is designed to meet varying law enforcement needs.

The Four Corners area, which is experiencing significant cultural resources protection difficulties, is one area being considered for immediate staffing with uniformed law enforcement rangers.

Colorado River Management

Question: Has the Bureau completed the Resource Management Plan for the public lands along the Colorado River? If so, briefly highlight the selected management alternative for the floodplain.

Answer: The Yuma RMP has not yet been completed. The draft RMP/EIS, published in January of 1985, addressed floodplains in the preferred alternative as follows:

"Recreation lands along the Colorado River would be retained in federal ownership to ensure that public opportunities for Colorado River recreation continue to be available in the future. Along the Parker Strip, only floodproofed day-use facilities would be allowed within the 100-year base floodplain. BLM's long-term intent would be to move overnight recreational use and associated development out of the base floodplain. On the rest of the Colorado River, only those permanent facilities that are floodproofed would be allowed in the 100-year floodplain. Existing permanent structures would be allowed to remain in the 100-year floodplain until they are substantially damaged by flooding, their useful life is gone, an applicable part of the lease is renegotiated, or the lease expires.

"About 25,000 acres of Colorado, Bill Williams and Gila River floodplain, would be managed as priority riparian wildlife habitat. This would benefit natural floodplain functions by maintaining channel stability and providing areas to filter sediment.

"Agricultural lands located in the Colorado River floodplain would continue to be farmed until the Central Arizona Project (CAP) begins operating or the present leases and permits expire. New leases would be issued under 43 CFR 2920 regulations for those lands having legal water rights in compliance with state water law and the Colorado River adjudication. The existing agricultural leases and permits that are not in compliance with state water law would be cancelled and managed for recreation and/or wildlife values."

Wild Horses and Burros

Question: The 1986 budget estimate is based on the assumption that legislation granting sale authority will be in place. The budget also indicates that BLM will have 10,025 animals maintained in corrals at the end of FY 85. Is the sale authority you are proposing a one-time authority for the animals unadopted at the end of 1985 or a continuing authority for unadopted horses?

Answer: The proposed sale authority would be continuing authority to sell unadopted excess animals which is needed in order to reach and maintain appropriate management levels.

Question: If the BLM was given sale authority would adoption efforts be reduced?

Answer: No. The adoption program would continue to be a high priority effort of the BLM. We anticipate that the adoption program would be more cost efficient as the older, less desirable animals were offered for sale rather than being maintained in corrals for extended periods of time; therefore, more adoptions could be achieved with the funding available.

Question: If sale authority is given, what assurances are there that the animals will not be sold for commercial purposes?

Answer: We would have no control over the ultimate disposition of animals once the animals were sold. However, this also parallels the current situation with adopted animals which have been titled to private owners after one year of private maintenance as provided by current law.

Levee Improvements: Little Colorado River, Holbrook, Arizona

Question: The Corps of Engineers has recommended authorization for a new flood control project for the Little Colorado River in the vicinity of Holbrook, Arizona. It is my understanding that as much as 9[illegible] percent of the flood waters creating a need for the flood control project, originate on Federal lands surrounding the area, predominately the BLM. What responsibility does the BLM take for such problems?

Answer: The BLM's responsibility is to restore or rehabilitate public land areas in deteriorated condition to reduce the rate of overland and accelerated runoff and to minimize downstream peak discharge and flood damage. Often, larger scale flood control measures are needed in situations where natural runoff from wildlands may be one of several contributors to a downstream flood problem. In such cases BLM provides support, as appropriate, to the Federal agency responsible for the development of the flood control measures.

Question: Does the BLM have authority to undertake a flood control project when flooding waters originate on BLM lands?

Answer: In accordance with the Watershed Protection and Flood Control Act of 1954, BLM cooperates with States, conservation districts, and flood prevention or control districts to reduce erosion or flood water and sediment damage. BLM assesses public lands through its land-use planning process, and implements cost-effective conservation projects designed to minimize and control excessive runoff as part of the BLM's responsibility for multiple-use management of the public lands. Authority for the development of larger scale flood control measures, however, rests not in BLM but in the Bureau of Reclamation and the Army Corps of Engineers programs.

BLM/Forest Service Interchange

Question: As you know, considerable controversy has been generated in my State of Arizona as a result of the proposed transfer of Forest Service lands to the BLM and vice-versa. Can you tell me, from your latest estimates, what the Bureau expects to save a year in administrative and personnel costs from the transfer in Arizona?

Answer: The most current cost and savings estimates indicate potential savings of between $1.1 million to $1.7 million per year after implementation is complete in Arizona. The BLM is still in the planning stage of the interchange program and is still evaluating several interchange alternative proposals for Arizona. These estimates, therefore, may change in the course of reaching final decisions concerning land boundaries, management responsibilities, and office sizes and locations for the Forest Service and BLM jurisdictions in Arizona.

Question: One of the biggest complaints I have heard expressed by individuals in Arizona is that there has been very little public input into the formulation of an interchange proposal. I understand that both agencies intend to hold hearings in June on the final proposal submitted to Washington, with a legislative proposal being sent to the Congress towards the end of July. Do you believe public hearings to be held in the month of June will be sufficient to truly measure the public opinion on the Arizona plan? How can a thorough analysis of these comments take place in such a short amount of time prior to the submission of a legislative proposal?

Answer: Since February 1985, BLM and FS representatives in Arizona have jointly and separately explained the interchange program and answered questions on over 35 occasions. The sessions included three public meetings as well as numerous briefings for local and State governments, various organizations and key individual contacts. There were also over 40 telephone inquiries in Arizona during which the program was explained and questions from concerned citizens were answered. Nationwide, there were over 85 public meetings and almost 600 semi-formal consultation meetings. The extent of public discussion and input was broad, and the views of the public as well as other government officials are being used in our current analysis.

A 30-day public comment period began on June 7, 1985. During this period, written comments will be encouraged to provide BLM and the FS with input in preparing the legislative proposal. The public hearings scheduled for mid-June are designed to allow for additional input by members of the public to national-level representatives of both agencies. Currently, we are planning to hold 28 formal hearings, mainly in the West. As part of this schedule, hearings will be held in Safford, Phoenix and Prescott, Arizona. The comments received in writing and orally at the hearings will be analyzed, and a report of that analysis and a copy of the comments will be provided to Congress when the legislative proposal is submitted.

BLM's schedule for the interchange program has been designed to allow comprehensive planning and development of the proposal and also timely submission of a complete legislative proposal to Congress. We feel that sufficient time has been allotted for a thorough review of the public hearings; however, if there is an unexpectedly heavy volume of comments, the analysis period will be extended.

Question: What personnel changes do you expect as a result from the interchange in Arizona?

Answer: Several alternative interchange proposals are still being evaluated for Arizona. Until a preferred alternative is selected, the final personnel changes in Arizona are subject to change. Based on the analysis of the Arizona interchange alternatives, however, it is estimated that between 10 and 33 full-time permanent positions will be saved by both the FS and BLM in Arizona.

Question: Do you believe that BLM and Forest Service personnel firmly understand what will be expected of them in terms of management, etc., by the interchange concept? Please explain.

Answer: Employees at all levels of the organization have been and will continue to be kept well informed of the status and objectives of the interchange program. To date, this has been accomplished through general employee meetings, special agency newsletters released on a regular basis, and "hot lines" established in each State and region to answer employees' questions and explain the program.

After passage of legislation and implementation of the interchange, more detailed and structured employee orientations will be held. Two phases of orientation are anticipated. The first is general orientation which will be conducted by BLM and FS teams. The FS will orient the BLM, and the reverse will also occur. These sessions will cover such subjects as mission, philosophy, history, programs, lands, and administration. The second phase of orientation, program-specific orientation, will take place around the time the legislation passes. This orientation effort will concentrate on developing new working relationships and on making a smooth transfer of specific programs among affected staff and management of both agencies.

Along with these plans, other orientation programs or training will be undertaken on an as-needed basis to ensure smooth and rapid transfer of management responsibilities.

Question: Will on-going land use planning efforts be affected by the interchange proposal?

Answer: Ongoing land use planning efforts will be completed as scheduled. Completed land use plans by either agency will continue to guide management in all areas until they need to be updated through normal planning processes. The intensity of on-the-ground management, such as resource production, protection, and uses will remain the same under either agency's administration. Both agencies have the professional staffs capable of administering resources on both public and national forest lands.

Question: How would you evaluate the sentiment of Arizonans with regard to the proposed interchange?

Answer: To date, public response in the form of letters and other written communications in Arizona has been less than favorable. The majority of the interest expressed has come from the communities of Prescott, Williams, and Safford. The expressed concerns are centered around community impact, potential economic loss from reduced Federal employment, perceived loss of public services, and reduced resource management capabilities.

As indicated in our response to a previous question, BLM and the FS are considering several alternatives for the interchange proposal in Arizona. Many of the concerns voiced from these communities will be resolved by selection of one of the alternatives. Public concerns, along with improved efficiency, and enhanced public service will be considered in selecting the preferred interchange proposal.

Question: What steps does the agency plan to take, step by step, prior to legislative approval of a title transfer?

Answer: Within Arizona, three formal public hearings will be held prior to legislative approval. There are also plans to detail positions to begin the learning process about interchange-related lands and management responsibilities. This process will involve exchange of knowledge and ideas. No shifting of supervision of administrative units will occur prior to legislation. The detailing of positions will involve only observation and education.

On a national basis, the major steps that would be taken include: (1) review and completion of implementation guides; (2) development of a national over-view, State/Regional Summary, and legislative concept paper; (3) announcement, preparation, and opening of a 30-day public comment period, and the holding of public hearings;

(4) analysis of public comments; and (5) preparation and submission of the legislative proposal to Congress.

Pending legislation on a general basis, we are planning actions associated with the co-location of BLM and Forest Service offices, taking steps toward shared services where efficiencies would result, particularly in the administrative area, and for achieving greater consistency in computer and other information management programs between the two agencies. While these actions would have implementation costs initially, they would result in overall savings in the long run. No additional authority is needed to take these actions. While they will put us on a better footing to implement the interchange, they are, for the most part, actions which are justified for management efficiency in their own right and which the two agencies consider worthwhile regardless of other aspects of the interchange proposal.

Question: Could you provide complete details on the interchange plan for Arizona?

Answer: In Arizona, a concept proposal and two alternatives have been developed. In the proposal based on the concept map, the interchange would transfer 66,250 acres of National Forest System lands to the Bureau of Land Management while the Bureau would transfer 791,000 acres to the Forest Service. The Forest Service would acquire management responsibilities for certain parcels of public lands adjacent to the Apache Sitgreaves, Coconino, Coronado, Kaibab and Tonto National Forests. BLM would become responsible for the Bradshaw Ranger District and the western portion of the Chino Valley Ranger District.

The two alternatives to the proposal would affect both the Prescott National Forest and the Safford BLM District. Under each alternative the Forest Service would retain jurisdiction of the entire Prescott National Forest and acquire 656,000 acres of public land from BLM. The Safford Ranger District would become a resource area within the BLM Safford District. Under either alternative, 415,000 acres of Forest Service land would transfer to BLM.

The boundary lines and acreage involved are the same in both alternatives. The difference between Alternatives 1 and 2 is in how the Forest Service would administer the land in what is now the Prescott National Forest. ~~In~~ Alternative 1, the Prescott Forest Supervisor's Office would be closed; the Bradshaw Ranger District would become part of the Tonto National Forest; the Chino Valley Ranger District would be part of the Kaibab National Forest; and the Verde Ranger District would go to the Coronado National Forest. Alternative 2 would close the Kaibab Supervisor's Office; all Kaibab Ranger Districts would go to the Coconino National Forest; and the Beaver Creek and Sedona Ranger Districts would come to the Prescott National Forest. The Safford Ranger District would transfer to BLM in both alternatives.

Questions Submitted by Senator Dale Bumpers

Leasing In Wilderness Areas

Oil and gas leasing in wilderness study areas creates conflicts with wilderness designation and I seriously question that they should be issued before Congress acts. However each year the Administration attempts to weaken or eliminate the existing Congressional ban.

Question: What amendments or changes to this Congressional ban on leasing in wilderness and wilderness study areas are proposed for this year?

Answer: The proposed change would permit the Secretary to issue oil and gas leases in designated wilderness areas where such lands are being drained "through oil and gas wells on adjacent lands." In addition, administratively designated wilderness study areas would be treated the same as congressionally designated study areas in that the subsurface could be leased under certain conditions. If enacted, these provisions would assist the Secretary in safeguarding the public interest by collecting royalties on Federal oil and gas where drainage is occurring. Currently, the only way the Government can collect revenues on unleased Federal lands is through a compensatory royalty agreement with the owner of an adjacent well. However, unless the unleased Federal lands are within the spacing unit for the well, there is little or no incentive for the well owner to agree; and there is no authority to compel him to do so.

Question: Will this proposal allow for the surface occupancy of BLM wilderness study areas?

Answer: The proposed language would allow the Secretary to protect Federal oil and gas resources and at the same time would protect the potential wilderness areas by limiting these leases to the subsurface resource. This limitation is intended to ensure that the lessee has no rights under the lease to use the surface area. This limitation is further clarified by the proposed language which prohibits surface occupancy. The proposed language would allow directional drilling from outside the wilderness area for two reasons: (1) the lessee would have the right under the lease to recover the oil and gas if recovery does not affect the surface, and (2) recovery through the drainage well may not be the most efficient method and may result in the loss of Federal oil and gas.

Question: Does this proposal provide the Secretary of Interior with jurisdiction over the leasing of all federal wilderness areas, lands recommended for designation, further planning or study areas?

Answer: Under this proposal the Secretary of the Interior would continue to maintain jurisdiction over any leasing of Federal lands designated as wilderness and being studied for possible inclusion in wilderness areas.

Court Decision Requiring EIS's for O&G Leasing

I understand that two recent U.S. District Court decisions (Idaho & Montana) have ruled that the Forest Service and BLM must prepare an Environmental Impact Statement for each and every lease issued in these areas. Apparently both cases resulted from the failure to comply with NEPA and the Endangered Species Act.

Question: Explain the impact of these court decisions to require EIS's on each lease?

Answer: The recent district court decision to which you refer involves over 700 leases covering more than one million acres in the Gallatin and Flathead National Forests in Montana. The decision does not require preparation of an EIS for each oil and gas lease. Rather, the court held that an EIS should be prepared for leasing in these national forests. The Government currently has a motion pending before the court to clarify the bases for its decision.

If the leases are cancelled, the Federal Government would have to refund over $3 million in previously paid rents. (None of this land has yet been developed.) In addition, many of the 700 leases have already been assigned to parties that were not involved in the original lease. Cancelling the leases or altering them in any way will likely cause a costly chain reaction of hardship to current lease owners and drilling companies who had planned to develop these leases. It is possible that the Government could be held liable for issuing and then recalling the "illegal" leases.

Question: Is it likely that these decisions could be applied nationwide? If so what effect will it have on the onshore oil and gas leasing program?

Answer: The court appeared to be concerned about the impact that leasing would have on wilderness potential and on endangered species. As noted above, the Government is seeking clarification of the court's reasoning why issuance of these leases, with restrictive stipulations to protect various sensitive resources, constituted a major Federal action with a significant effect on the human environment. Until we are sure of the precise bases for the court's decision, we cannot predict its effect on the onshore oil and gas leasing program. However, depending upon the effects of this decision and to what extent it must be applied to other locations as well, the oil and gas leasing program could either be substantially slowed or become considerably more costly. We see no benefit to the public from preparing what we believe would be inconclusive, speculative EIS's for a program which for many years past, and through tens of thousands of previous development actions, has shown that proper leasing with appropriate stipulations does not lead to significant adverse impacts to the environment. In our opinion, we are in full compliance with NEPA and the CEQ regulations in the oil and gas program.

KGS Determination

Yesterday testifying before the House Interior Subcommittee on Mining and Natural Resources a panel of independent oil and gas associations were very critical of the competence and professionalism of BLM employees in defining a KGS. They recommended that this responsibility be turned over to the Minerals Management Service.

Question: What amount is requested within your FY 86 budget to address this situation?

Answer: The funding requested for KGS classification work in the FY 1986 budget is $3.3 million, including a proposed increase of $600,000 which would permit the Bureau to eliminate any existing backlogs and to maintain KGS's on a current basis.

Question: Are these funds adequate to properly identify KGS's and make them available on a timely basis?

Answer: The funding proposed in the FY 1986 President's Budget will be adequate to identify KGS's on a timely basis. It is the policy of the Bureau that unleased KGS land be offered for competitive bid on an annual basis.

Question: Considering the complexity of KGS determination and the new requirement that "competitive interest" be considered when designating a KGS, do you believe it is still prudent to spend a lot of time and money trying to define them?

Answer: Much of the work involved in the present procedures for KGS determinations would continue to be required regardless of whether we continue to designate KGS's. The Bureau would still need to locate producing wells and analyze the geology and reserves of producing areas in order to make unit agreement designations, establish communitization agreements, determine if drainage were occurring and perform other work associated with the management of Federal oil and gas reserves.

The introduction of the "competitive interest" factor added another parameter to the definition of KGS. Judge Waters specified that competitive interest could be shown by higher than normal discovery rates and resultant high economic value. Prediction of high discovery rates depends first, on whether or not the conditions exhibited in a field can be extrapolated to the surrounding lands, and second, on whether there is high enough industry interest to consider "competitive." In the case of Fort Chaffee, there was little doubt of the prediction of high discovery rates and resultant competitive interest. In most cases, however, the surrounding acreage exhibits normal discovery rates and normal interest. Some areas which are known to be blanketed with oil or gas deposits have no interest due to low production rates; other areas will develop high competitive interest but have discovery rates of zero. We define KGS's in both the normal and the highly competitive situations.

Question: Can you tell me how the "competitive interest" ruling emanating from the Fort Chaffee decision is being used to designate a KGS?

Answer: The Fort Chaffee decision does not say that "competitive interest" can be an independent basis for designating a KGS. By independent, we mean absent drilling and geologic evidence tying the lands in question to the same structure as the producible well. It says only that the obvious competitive interest in the land at issue supported the conclusion that the "step-out" KGS determinations, made without geological analysis, were arbitrary and capricious. Thus, competitive interest clearly warns BLM when it needs to do more detailed geologic work or collect additional geologic information before classifying that land. Whether it also authorized establishing a KGS where no geological tie to the structure of producible acreage can be found is a question under consideration within the Department, but right now competitive interest is not being used as an independent basis for KGS determination. It has been forcefully argued to us that to use the Fort Chaffee decision in that manner is not only beyond what the Eighth Circuit held but is also inconsistent with the geologic standard established by the statute and recognized by the Eighth Circuit -- that the land be on the structure of a producing field.

Wild Horses And Burros

Last year approximately $17 million was appropriated to remove 17,000 excess wild horses and burros from public lands.

Question: How do you plan to dispose of such large numbers of corraled horses under current law?

Answer: Our 1985 annual work plan is based on an aggressive adoption program that we anticipate will place over 9,000 animals in private maintenance this year. Of these, about 1,000 animals that cannot be adopted at the full fee will be adopted under fee waiver or reduction provisions. Otherwise, approximately 800 old, sick, and lame animals will be destroyed as an act of mercy as required by law; and the remainder will be maintained in BLM or contract corrals pending adoption.

Question: Wouldn't it be advisable to halt the capture and corraling of these horses until an effective and humane plan for disposing of them is developed?

Answer: The law currently requires that animals be removed from the public lands when it is determined that an excess exists. We believe that our responsibility for effective stewardship of the basic public lands resources requires that we remove excess animals as expeditiously as possible. The enactment of sale authority would provide BLM an effective and humane plan for disposing of excess animals.

SUBCOMMITTEE RECESS

Senator McClure. The subcommittee will stand in recess until Wednesday, May 15, at 2 p.m., at which time we'll review the fiscal year 1986 budget request for the Energy Information Administration and the Economic Regulatory Administration.

[Whereupon, at 3:15 p.m., Thursday, May 9, the subcommittee was recessed, to reconvene at 2 p.m., Wednesday, May 15.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

WEDNESDAY, MAY 15, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:05 p.m., in room SD-138, Dirksen Senate Office Building. Hon. James McClure (chairman) presiding.

Present: Senators McClure and Bumpers.

DEPARTMENT OF ENERGY

ECONOMIC REGULATORY ADMINISTRATION

STATEMENT OF MARSHALL STAUNTON, DEPUTY ADMINISTRATOR FOR ENFORCEMENT

ACCOMPANIED BY:

MILTON LORENZ, SPECIAL COUNSEL

THEODORE MILES, DEPUTY CHIEF COUNSEL FOR ADMINISTRATIVE LITIGATION

THOMAS NEWKIRK, CHIEF COUNSEL FOR JUDICIAL LITIGATION

JAMES WORKMAN, DIRECTOR, OFFICE OF FUELS PROGRAMS

PREPARED STATEMENT

Senator MCCLURE. The meeting will come to order. This is the time scheduled to review the fiscal year 1986 budget request for the Economic Regulatory Administration and the Energy Information Administration. We'll begin with ERA, whose fiscal year 1986 request of $17,692,000 represents a $4,205,000 decrease, or 19 percent, from the fiscal year 1985 appropriated level.

Testifying on behalf of the Department today is Mr. Marshall A. Staunton, Deputy Administrator for Enforcement for the Economic Regulatory Administration. Please introduce your associates that are at the table with you and that may be assisting you in the presentation this afternoon, and we'll proceed with the questioning. Your full statement, of course, will be made a part of the record.

[The statement follows:]

Statement of Marshall A. Staunton

Mr. Chairman and members of the committee. I am pleased for the opportunity to provide testimony in support of the funding requested for the Economic Regulatory Administration in fiscal year 1986. My comments will include a brief review of the agency's program progress during the past year and a summary of our budget estimates for each program.

First, I wish to share two general observations. One is that the agency continues to decrease in size and in the scope of its work. With the decontrol of oil and the removal or streamlining of other energy regulations, the agency's workload has steadily diminished. This trend will continue as the final work of the Oil Pricing Enforcement Program—which constitutes 80 percent of our budget and personnel—is completed.

The second observation concerns our budget process. With the enforcement program, in particular, we have had to estimate our budget based on best estimates of case resolution up to 18 months ahead of the fiscal year. This has been an unscientific exercise, as the length of time to complete an audit or the rate of settlements has been difficult to determine with precision. This committee is well aware that our estimates a few years back have proven to be overly optimistic.

Our budget estimates for the current fiscal year, which included some adjustments at the time of our hearings last year, have been closer to the mark. This is primarily due to our experience in case resolution and the smaller inventory of casework. With the part of the program most difficult to project—enforcement audits—now nearly finished, we are today more confident in the program estimates upon which the fiscal year 1986 budget is based.

The enforcement program has experienced significant progress and change since our last hearing. Comprehensive settlements were reached with three of the largest refiners—Mobil, Gulf, and Arco. An agreement was also reached with Amoco relating to provisions of a previous settlement. Cash refunds from these four companies total $540 million. Additionally, serious negotiations are presently underway with two other major refiners. These settlements, alone, represent substantial future manpower and resource savings because the matters resolved would have required extensive litigation work. For this reason, settlements remain the preferred method of resolving the complex enforcement cases.

At this date, we believe our field audit work will be essentially complete by the end of fiscal year 1985. The only audit work remaining for fiscal year 1986 will be a small number of investigations that required subpoenas for the needed records, which we estimate will involve 15 firms. Our field staff, which are not located in only two offices—Dallas and Houston—will be primarily utilized to support litigation.

The work in fiscal year 1986 will be essentially litigation. The management of the litigation—along with the entire enforcement program—has been significantly improved by the Secretary's action which consolidated all enforcement functions within the ERA. This action resulted in the transfer of the General Counsel's enforcement litigation personnel to the ERA. The integration of General Counsel and ERA personnel into a new enforcement organization has resulted in improved case management and overall resource utilization. For the first time, all enforcement work—including litigation—is under one management system.

We project that approximately 400 cases will be in either judicial or administrative litigation at the beginning of fiscal year 1986. Our budget, which reflects the consolidation of personnel and work, provides for approximately 100 attorneys and 70 support staff for the litigation. This provides an average ratio of one attorney for four cases.

The request budget for the enforcement program is $14,521,000, which will fund 200 full-time equivalent employees. This is a decrease of $2,886,000 from fiscal year 1985, in which 245 FTE's are funded. This level of manpower and resources appears fully adequate for the projected litigation and program support workload. As in previous years, we will closely monitor our resource requirements, to ensure that we have the needed personnel and funds to complete this work.

The funding requested for the nonenforcement activities will support the Natural Gas Imports Program and the Electricity Import/Export Program at the same level as fiscal year 1985. We are not, however, requesting funding for the Coal Conversion Program. This program is required by the Fuel Use Act, which the budget anticipates will be repealed during this fiscal year.

Thus, the total budget request is $17,692,000. This, we believe, will fund our program requirements at a level that is fully adequate to carry out our assigned responsibilities. I am prepared, of course, to respond to further questions you may have on this request.

INTRODUCTION OF ASSOCIATES

Mr. STAUNTON. Thank you very much, Mr. Chairman. May I just have a point of privilege and say the Administrator, Mr. Hanzlik, regrets he could not be here, but because of rescheduling arrangements and a previous commitment, he's out of town and asked me to substitute.

I would like to introduce my associates. Starting at my right, to your left, is Mr. Theodore Miles, Deputy Chief Counsel for Administrative Litigation. His function is to carry the cases from the issuance of a PRO through the FERC process. To my immediate right is Chief Counsel for Judicial Litigation, Mr. Thomas Newkirk. His responsibilities are to handle litigation of all cases and enforcement actions from the time they complete the FERC process through the courts. They also involve enforcement of various discovery proceedings.

To my immediate left is Mr. Milton Lorenz. He's the special counsel; and his responsibilities involve a number of things, but concentrate primarily on settlements and settlement policies and overall coordination of programs. To my far left is Mr. James Workman, Director of the Office of Fuels Programs. These gentlemen will be here and can answer questions related to their areas of responsibility. We're now prepared to respond in any way the chairman wishes.

REORGANIZATION

Senator McCLURE. Thank you very much, Mr. Staunton. At last year's hearing Ray Hanzlik, Administrator of ERA, said that because of the decreasing workload toward the end of fiscal year 1985 or in fiscal year 1986, ERA programs might be better, more efficiently, and economically managed elsewhere within the Department of Energy, thereby reaching the conclusion of the independent ERA as a separate agency. Has the time come to assess that idea?

Mr. STAUNTON. Mr. Chairman, that idea was assessed at the end of the last quarter of 1984, and a conclusion was made by former Secretary Hodel to reorganize the agency in a different way and to combine the enforcement programs which, hitherto, had been divided between the Office of General Counsel of the Department and the ERA. That has now been accomplished for an all-out effort to see whether more efficient enforcement activity can be pursued.

At the time they did assess whether placement of the ERA activities in other agencies might be appropriate. The conclusion was "no," and the reorganization was decided as the best alternative, so we now have a reorganized group which combines part of the Office of General Counsel and ERA.

Senator McCLURE. No other plans at this time?

Mr. STAUNTON. No other plans at this time.

Senator MCCLURE. On November 19, 1984, the Secretary of Energy announced that the enforcement functions within the Office of General Counsel were transferred to the Economic Regulatory Administration, as you've stated. This resulted in the transfer of 47 Office of General Counsel personnel. Is that consolidation working, and with this consolidation isn't ERA actually expanding its scope rather than decreasing it, as Mr. Hanzlik stated last year?

Mr. STAUNTON. The answer to that question is—I'll take the last first—no, it's not expanding, because the enforcement functions which are now included within the ERA umbrella were being performed by another part of the Department of Energy—namely the General Counsel's Office—what has been done is to combine and to streamline, resulting in a more efficient allocation of resources, particularly manpower, to allow us to take advantage of the expertise which is developed. We get economies of scale and the result is to produce a more effective coordinated enforcement effort vis-a-vis the petroleum companies.

ENFORCEMENT PROGRAM

Senator MCCLURE. Under the compliance program you've requested $14,521,000, a decrease of $2,886,000. The majority of this decrease, or $2,300,000, comes from nonlitigation program activities. It is fairly clear that you anticipate having a decreased workload for fiscal year 1986. I note, however, that the $2,300,000 decrease for nonlitigation activities is a 60-percent decrease.

I don't want to work back into a situation like we were in in fiscal year 1984 when, in the compliance program, you requested $7 million, Congress added an additional $8 million, and you subsequently requested an additional $3 million in the fiscal year 1984 supplemental. Are activities in the nonlitigation program decreasing enough to handle a 60-percent decrease in funding?

Mr. STAUNTON. Well, may I answer the question this way: We are winding down what's known as the case development or enforcement program. This is the nonlitigation side of the enforcement activity. This means that the audit activities will be gradually diminished. We have projected our calculations based on past experience, so to a certain extent you're getting estimations on our part as to what we think the reduction in the work will be.

Our experience has shown that the number of field people that we need to maintain this level of case development is sufficient. That answer could change based upon information which is developed in the audits as they are winding down, but we do believe that this is an accurate assessment of the number of personnel that we need to perform these responsibilities.

Senator MCCLURE. I hope you're right. Otherwise I'll see you in supplemental again.

Mr. STAUNTON. So do I, Mr. Chairman. Forecasting is always a risky business, particularly in this area, because it's tough to do and you always get a surprise thrown at you.

Senator McCLURE. I hope you're right for two reasons. One is I hate to see underestimates we have to come back and increase dramatically. Second, I hope indeed that the workload projections are realized, because that indicates a successful conclusion of one phase of the program. I guess I bear down on that just a little, because going from 7 million to 18 million once before indicated to us that we ought to have a little caution about your projections.

Mr. STAUNTON. We certainly are cautious about the litigation side. We have no illusions about what's going to be required there in terms of manpower and litigation support. The full-scale auditing is where we see perhaps a real chance to make some economies. Whether that will come true depends upon the information which is developed in the auditing process going on right now. We haven't seen any surprises, and our experience with the program up to this point has been sufficient to tell us—at least tell the auditors and those experienced at it what we can expect. Our forecast reflects that kind of a prediction.

Senator McCLURE. Let me just close that out by asking this. We all know that budgets are developed months ahead of time; they run through OMB and departmental review and OMB and passbacks and passforwards and appeals and cross-appeals and discussion and rebuttals and surrebuttals, and you eventually come up months later with an administration proposal to us, but that's still months after you make your initial presentations. Now we've had some months of experience in this fiscal year since those initial developments, and I understand what you're telling me is that the experience since your original estimates bears out the accuracy of the estimates; am I correct?

Mr. STAUNTON. That's correct, Mr. Chairman.

NATURAL GAS AND ELECTRICITY OPERATIONS

Senator McCLURE. In natural gas and electricity operations you have requested $250,000 for contract support for environmental impact studies to comply with the National Environmental Policy Act, as well as to conduct reliability assessments regarding electric transmission facilities. Could you explain in more detail the nature of these environmental studies and how they will comply with NEPA?

Mr. STAUNTON. I would like to call upon Mr. Workman, who's very familiar with those, to respond to that, if I might.

Mr. WORKMAN. Yes, sir; those environmental impact statements are associated with our permitting of facilities for the exchange of electricity across international borders. We do what's called Presidential permitting within the Economic Regulatory Administration. In every instance where either an import or an export of electricity is involved, and new facilities are to be added across the border or to be operated in some different manner than the way they might be operated today, a decision needs to be made by the executive branch as to whether putting those facilities in place is in the public interest. One of the things we must do, because the permitting is considered to be a major Federal action with the possibility of affecting the environment, is comply with the National Environmental Policy Act.

Senator McCLURE. You can do an impact statement for $250,000?

Mr. WORKMAN. I would say that's the approximate cost of one.

Senator McCLURE. How many do you anticipate having in 1986?

Mr. WORKMAN. My estimate is that we will probably be involved in two in the course of fiscal year 1986. We'll probably seek money in fiscal year 1986 to start one toward the latter part of that year and moneys to continue one that started in the latter part of this year in fiscal year 1986.

Senator McCLURE. All of one and the start of another?

Mr. WORKMAN. Yes, sir.

Senator McCLURE. Will you have enough money to do all of one and the start of the other?

Mr. WORKMAN. Yes, sir; we have money in the fiscal year 1985 budget for the same purposes, and this is consistent with the level of funding that we've had for this purpose over the course of the last several years.

Senator McCLURE. Could you also explain please more fully the reliability assessment activity?

Mr. WORKMAN. Yes, sir; most of that contract money is, as I indicated, for environmental impact statements. But, on occasion we may be looking for an independent contractor to come in to appraise a couple of utilities, positions that might be different views as to the reliability implications of a connection across an international border.

The reliability assessments could relate to more than the permitting of facilities across the border. We must also authorize exports of power from the United States. We have to make a determination in such a case that the sufficiency of electric power supply in the United States would not be compromised. Hence, there are occasions where a reliability assessment might relate to an export as well as to the operation of facilities crossing the border for either imports or exports. Actually, the moneys are largely there for environmental impact statements and on a contingency basis for reliability assessments.

FUELS CONVERSION PROGRAM

Senator McCLURE. In fiscal year 1985, your justification indicates that you anticipate the Fuels Conversion Office will issue nine final conversion orders and process 35 exemption requests. If the Fuel Use Act is not repealed, what sort of activities do you anticipate in fiscal year 1986 and how would you propose to fund this work?

Mr. STAUNTON. Again I would ask Mr. Workman to respond to that, Mr. Chairman.

Mr. WORKMAN. Let me answer the first part of it first: If the act is not repealed, what level of activity might be anticipated in fiscal 1986? I would anticipate that we would be working on probably six prohibition orders. Half a dozen is probably a better way to say that, to show the accuracy with which——

Senator McClure. You mean half a dozen is less precise than six?

Mr. Workman. That's precisely what I meant.

Senator McClure. Approximately what you meant.

Mr. Workman. Yes, sir.

I estimate that we would be processing 30 to 40 exemption petitions. That's based on our experience at this time, this year, where we've received 35 exemption petitions. We would be required to review utility natural gas conservation progress in line with plans that we approved a couple of years ago. We would also be reporting to the President and the Congress with respect to accomplishments under the act. Those would be the basic activities that we would undertake in fiscal year 1986.

Your next question was how would we fund such activities if the act was not repealed?

Senator McClure. Yes, sir.

Mr. Workman. We would be coming before you for a supplemental or looking internally to see if we had funds that might be reprogrammed.

Senator McClure. How much money would be necessary to support that degree of activity?

Mr. Workman. I would estimate on the order of slightly above $1 million for personnel costs to give us the critical skills mix that would be necessary to accomplish those things. Now I might point out that there's some money in this budget request for severance purposes for fuels conversion staff. That money would then not be necessary, so that the net increase would be something less than that.

Senator McClure. Do you recall the dollar amount on the severance?

Mr. Workman. $400,000.

Senator McClure. It would be an additional $600,000?

Mr. Workman. Approximately so, sir.

Senator McClure. Approximately precisely?

Mr. Workman. I said $1 million or slightly more than that, so approximately. I will provide the exact amount for the record.

[The information follows:]

Funding for Fuels Conversion if no Repeal of Fuel Use Act

The amount of $1.2 million for 15 FTE's, including $200,000 for contract support, would be required to fund the program in fiscal year 1986. Using $400,000 in requested severance funds for program operation would result in a net requirement of $800,000

STAFFING LEVEL

Senator McClure. In last year's Senate bill, language was included to abolish the artificial personnel constraints imposed in the earlier appropriations act. At that time the committee felt that these FTE floors were an unnecessary intrusion into the Department's management. The committee hoped that it would not be necessary to reactivate personnel floors in an effort to guarantee the operation of ERA's programs.

I note however that you've proposed to decrease your FTE's from 299 to 238, a decrease of 61 FTE's, or 20 percent, below the 1985 level. Comparing this level with the 1984 level of 396, the overall FTE decrease from fiscal year 1984 to fiscal year 1986 would be 158 FTE's, or 40 percent. With a decrease of 40 percent over 2 years, how can I be assured, and assure the rest of the committee and the Senate, that in light of this decrease the programs of the ERA will not suffer?

Mr. STAUNTON. Mr. Chairman, that question is one which we've carefully looked at from the standpoint of handling the administration of enforcement which is a two-phase activity. One is the development of the case, which we call enforcement or case development. The second is the litigation or legal side of it, in which an enforcement proceeding occurs.

Our experience has shown that as the cases in the development activity decrease, we are able to eliminate the need for personnel in that area except for the litigation support. What you're seeing there is our estimate of what we think will happen on the enforcement side. We believe that there will be a reduction in personnel on the enforcement side, the audit side, to a certain minimum level which will provide case and litigation support. Those figures are reflecting our best estimate of what we think will happen.

We think that by the end of this year we should have substantially completed all the audit work, and that will mean that what's left is litigation support. That again is subject to a series of qualifications which I'm very quick to point out. So the answer to your question is that the enforcement program, the case development side, is being wound down, while the litigation side is accelerating; and we do have adequate counsel to handle those cases at this time.

FIELD OFFICES

Senator McCLURE. That would indicate that while there's a precise area of responsibility, that will yield the greatest reduction in FTE's. Does it imply the closure of any field offices?

Mr. STAUNTON. We have no plans to close any field office at this time.

Senator BUMPERS. How many field offices do you have?

Mr. STAUNTON. Two: one in Dallas and the other in Houston.

Senator BUMPERS. Why are they both in Texas?

Mr. STAUNTON. That's a good question; I'm not sure I can answer that.

Senator BUMPERS. We Arkansans want to know why everything is in Texas.

Mr. STAUNTON. As the caseload was winding down both on the audit and case development side, we found we could efficiently operate out of two areas, and most of the personnel who had the required expertise were located in Dallas and Houston.

Senator BUMPERS. That doesn't make much sense to me. Seems to me like Denver or Boise or Salt Lake City, someplace like that. Of course I recognize that most of these people that you're regulating are in those areas, but that seems to me like an awful lot of concentration of field offices. They are just 150, 200 miles apart there.

Mr. STAUNTON. The specific answer to the question is that it was a combination of two factors: one, that's where the people who were being regulated were located; and two, that's where the individuals were with the appropriate skills.

Senator BUMPERS. Is this all the hearing we have, just on this?

Senator MCCLURE. We have EIA next, and I'm about ready to shift over to that.

Senator BUMPERS. I'll try to get back for that. I thank you for yielding.

Senator MCCLURE. Surely.

With a decrease of 61 FTE's, total personnel compensation will decrease $3,573,000. This is an average savings of over $54,000 per FTE. Since the current average salary per FTE at the Economic Regulatory Administration is about $45,000, does this reduction entail the elimination of your most talented and, therefore, the highest-paid people?

Mr. STAUNTON. As it turns out, Mr. Chairman, there's an inaccuracy in that calculation. The figure you cited showing the total amount for FTE's being $3,573,000 includes an amount for a 5-percent salary reduction which should not have been included in that figure.

Senator MCCLURE. That's an overall or just for the groups eliminated?

Mr. STAUNTON. That figure should not be $3,573,000 but $2,947,000, which would bring you an average reduction per FTE of $49,000, which we think accurately reflects the cost reduction.

Senator MCCLURE. Slightly above the average for the agency.

Mr. STAUNTON. That's correct.

Senator MCCLURE. Let me ask it this way: Would you please provide for the record a grade distribution for the 61 FTE's you're proposing to cut?

Mr. STAUNTON. I would be very happy to, Mr. Chairman.

[The information follows:]

FTE REDUCTION IN FISCAL YEAR 1986

No assumptions were made with respect to the grades which might be affected through projected attrition for fiscal year 1986 because it is impossible to forecast which individuals might leave. The FTE budget reduction amount is based on the estimated average salary derived from past experience with attrition.

ADDITIONAL COMMITTEE QUESTIONS

Senator MCCLURE. I have some additional questions which I will submit for response in writing to the record, and other members of the committee may do so also; and I would request that if they have such questions they be submitted by close of business today. With that, I want to thank you and your assistants for the testimony today, and we look forward to your next appearance here.

Mr. STAUNTON. Thank you, Mr. Chairman.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

NATURAL GAS PROGRAM FUNDING AND WORKLOAD

Question. In the fiscal year 1986 request, under the Natural Gas Program, you have requested $1.5 million to process 25 import applications, provide technical support for consultations with U.S. trading partners, and participate in FERC proceedings.

In fiscal year 1985, Congress also appropriated $1.5 million to do the same work, except 34 import applications were anticipated instead of the 25 anticipated in fiscal year 1986.

Can you explain why the same amount of money is requested for what appears to be 30 percent less work?

Answer. While 34 cases are now projected for fiscal year 1985, a caseload of 25 was projected for fiscal year 1985 in a capability statement submitted in August 1984. Considerable uncertainty underlies these projections given the fluid state of the natural gas market. The fiscal year 1986 estimate of 25 cases could easily be low. ERA is processing in fiscal year 1985, with less staff, over three times as many cases as in fiscal year 1984.

FUEL USE ACT REPEAL

Question. Your budget does not include funding for the Fuels Conversion Program. This is premised upon repeal of the Powerplant and Industrial Fuel Use Act prior to fiscal year 1986. As chairman of the Energy and Natural Resources Committee, I haven't seen the proposed repeal legislation.

Is it your intent to send up legislation to repeal this act or are you waiting for Congress to take the initiative?

Answer. The Department of Energy believes that Fuel Use Act repeal and related legislative objectives can be achieved best in a comprehensive initiative to deregulate natural gas. At the time the budget request was being prepared, Fuel Use Act repeal was before the Congress in the administration's natural gas deregulation bill. That legislation did not pass, and a decision to reintroduce such comprehensive decontrol has been deferred until later this year when we believe the benefits of decontrol will be clear from phased deregulation of natural gas under the Natural Gas Policy Act.

ERA REIMBURSEMENT TO EIA

Question. For the first time in at least 3 years, you have requested $150,000 in the compliance program for case tracking and audit support from the Energy Information Administration.

Will you explain why this is necessary this year and what it will provide?

Are these funds to be used to reimbruse EIA?

Answer. The Energy Information Administration has stepped up its cost recovery program covering use of its ADP facility by non-EIA organizations. This program anticipates a Governmentwide cost recovery policy as reflected in OMB's draft circular dated September 12, 1983, and superseded by a second draft dated March 15, 1985, entitled "Management of Federal Information Resources." EIA has annually provided ERA with computer support services, primarily to maintain the compliance program's record case tracking system [RECATRK] and for analyses of audit data. ERA plans to reimburse EIA $150,000 for computer services in fiscal year 1986.

ENERGY INFORMATION ADMINISTRATION

STATEMENT OF DR. HELMUT A. MERKLEIN, ADMINISTRATOR

ACCOMPANIED BY ALBERT H. LINDEN, JR., DEPUTY ADMINISTRATOR

PREPARED STATEMENT

Senator MCCLURE. We'll now turn to the Energy Information Administration.

The budget request for EIA is $58,900,000, a decrease of $1,524,000, or 2.5 percent, from fiscal year 1985 appropriations to date.

Representing the Department today will be Hon. Helmut A. Merklein, Administrator of the Energy Information Administration. You are no stranger, of course, to this committee, and you're very welcome again here. If you will introduce your associate, we'll proceed directly to questions and your full statement will be included in the record at this point.

[The statement follows:]

STATEMENT OF HELMUT A. MERKLEIN

Mr. Chairman, members of the Committee, this is my first opportunity to appear before you as Administrator of the Energy Information Administration (EIA), and I am pleased to present the proposed Fiscal Year 1986 budget request. This request is for $58.9 million. I consider this amount to be adequate to continue EIA's mission in FY 1986.

MISSION OF THE ENERGY INFORMATION ADMINISTRATION

The EIA is the Nation's primary source of comprehensive energy information. EIA provides relevant and timely energy data and analysis reports to the Executive Branch, Congress, State governments, and the public so that those who make decisions about energy are informed adequately to make those decisions well. EIA also provides energy data, analyses and processing support to the Federal Energy Regulatory Commission and to other Department of Energy (DOE) offices to assist them in carrying out their responsibilities.

The EIA collects, evaluates, assembles, analyzes and disseminates data and information that are pertinent to energy resource reserves, energy production, consumption, distribution and technology; related economic and statistical information; and data and information that bear upon the adequacy of energy resources to meet demands in the near and longer term future for the Nation's economic and social needs. This is in accordance with EIA's legislative mandate.

While administratively an integral part of the Department of Energy, the EIA is vested with a considerable measure of autonomy in determining both the information to be gathered and the content of EIA reports. Although we are generally experiencing a condition of adequate energy supply at the present time, an objective, unbiased source of energy information is important under these conditions just as it is during periods of short supply. Current subjects of interest to this Congress include natural gas contracts and tax reform. I am pleased to note that the Congress has requested that EIA make a contribution to the national debate on these two subjects by conducting special purpose analyses. It is my intention to continue to manage EIA in such a manner as to maintain its reputation for providing high quality information to the Congress, the Executive Branch, the States, industry, and the public.

FY 1985 ACTIVITIES

During FY 1985 EIA is continuing to produce and provide a stable core of publications and analysis reports. This includes all major integrated publications, such as the Monthly Energy Review, the Annual Energy Review, the Annual Energy Outlook, the Short Term Energy Outlook, and the International Energy Annual. Also included are the major fuel-specific publications, such as the Electric Power Monthly, the Natural Gas Monthly, the Petroleum Supply Monthly, and the Petroleum Marketing Monthly. EIA will also produce the annual oil and gas reserves report, the Weekly Petroleum Status Report, and other weekly, monthly, quarterly, and annual reports. In addition, EIA will continue to provide basic support to the Federal Energy Regulatory Commission on a reimbursable basis to assist it in meeting the information needs of its regulatory functions. EIA will also provide support to other users on a reimbursable basis, such as the Office of Civilian Radioactive Waste Management, the Strategic Petroleum Reserve Office, and the Social Security Administration. Finally, EIA will continue to manage the DOE energy information forms clearance program and prepare the annual DOE Information Collection Budget.

EIA is conducting several additional activities as requested by Congress. The quality maintenance investment program has been expanded in FY 1985 to reduce the backlog of projects that are necessary to restore and maintain the quality of EIA's information products. A Manufacturing Energy Consumption Survey to obtain new information about the major energy consuming sector will be fielded. EIA is also conducting the State Energy Data System, the State Energy Prices and Expenditures Data System, alternate fuels data and analysis, a State heating oil grant program and a sulfur oxide emissions survey design study.

Finally, EIA is initiating the replacement of its mainframe computer in 1985. As a result of the increased automation of all phases of our information gathering, analysis, and publication preparation activities, the existing computer has become saturated to the point of severely impacting on the efficiency of both in-house and contractor personnel. The new computer will have sufficient capacity to eliminate this problem, and will ensure that EIA information products continue to be provided to users in a timely manner.

FY 1986 OBJECTIVES

EIA plans to remain a timely and relevant source of energy information in FY 1986. EIA will continue to produce and distribute basic energy information on schedule, and will conduct planned timely analyses of relevant energy issues. Furthermore, EIA will provide the Executive Branch, Congress, State governments, Industry and the public access to information produced by the National Energy Information System, and will continue to be responsive to requests from the White House, the Congress, and other Federal agencies for special reports. EIA will continue to manage the energy information collection clearance process for the entire Department, including the Federal Energy Regulatory Commission, and to produce the Department's Information Collection Budget. In addition, EIA will continue to provide major energy data support on a reimbursable basis to the Federal Energy Regulatory Commission, the Strategic Petroleum Reserve Office, the Office of Civilian Radioactive Waste Management, and other agencies, both within and outside of DOE.

Although EIA's total budget request does not differ significantly from the FY 1985 appropriation, there are some program changes within the totals. The 1986 request assumes passage of legislation which would reduce Federal pay by five percent. It also assumes a staffing level of 485, which is five FTE's fewer than our current authorization. Within the total of 485, 20 staff years are dedicated to performing work for the Federal Energy Regulatory Commission and four staff years are dedicated to the Office of Civilian Radioactive Waste Management on a reimbursable basis. The requested EIA-specific appropriation, therefore, supports 461 staff years. I believe that EIA is capable of absorbing the slight reduction of five staff years through attrition, and by achieving program efficiencies with no loss of program capability.

In addition, the 1986 budget assumes a 10 percent reduction in administrative support services below the 1985 budgeted level. As you are aware, these administrative support services are managed centrally by DOE's Office of Administration. We are currently working with that office to see how we can achieve efficiencies which will allow us to reduce administrative support costs by 10 percent without disrupting EIA's ability to perform its mission at this reduced support level.

QUALITY MAINTENANCE INVESTMENTS

EIA was directed by the Congress to use $4 million of the FY 1985 appropriation to conduct necessary quality maintenance investments. This $4 million is currently being spent on a wide range and a large number of activities designed to ensure consistency and standardization of reporting, adequate frame coverage, development of universe surveys in some cases, methodology improvements where necessary, documentation of all data systems and models, requirements reviews, and quality audits. This 1985 level of effort is significantly reducing the backlog of activities that EIA has needed to conduct in order to restore and maintain the quality of its information products. In FY 1986 EIA estimates that about $2.5 million will be necessary to conduct quality maintenance activities. This estimate includes ongoing maintenance. Last year EIA prepared a cost-benefit study on quality maintenance which found that delays in conducting quality maintenance activities could lead to costs that were two to three times higher. EIA is seeking to avoid higher costs at a later date by conducting preventive maintenance activities whenever possible.

COLLECTION, PRODUCTION AND ANALYSIS PROGRAMS

In FY 1986, our Oil and Gas program will continue its data and analysis activities with the exception of the State heating oil grant program. This program has historically been funded by EIA since FY 1979, with the exception of FY 1983. The States which participate in this program (between 12 to 16 northeast and midwest States) have collected State-level residential price data. Some States have also gathered wholesale fuel oil price and inventory figures. This has enabled EIA and the State energy agencies to monitor and evaluate heating oil price, supply, and distribution trends. However, much of the information produced from this program is available through other EIA surveys. Within the context of available resources, this program is of lower priority than other programs that EIA is conducting.

We are proposing two changes in our Coal, Nuclear, Electric and Alternate Fuels program for 1986: the alternate fuels data and analysis program is scheduled to be discontinued and the uranium industry viability assessment program, which until now has been funded by the Assistant Secretary for Nuclear Energy, is planned to be conducted on a reduced scale.

The alternate fuels data and analysis program consists of two basic reports: the Annual Solar Collector Manufacturing Survey, and the Wood Energy Consumption Report. Although both solar and wood are energy sources, they are a very small percentage of total energy supply, and changes in these areas are not likely to have a significantly impact on total energy markets. Consequently, these surveys are of lower priority than other activities that EIA conducts.

The Uranium Industry Viability Assessment program is conducted in accordance with P.L. 97-415, the 1984 Nuclear Regulatory Commission authorization. In implementing this program, the Secretary delegated the responsibility for data collection and report writing to EIA, while funding has been provided by the Assistant Secretary for Nuclear Energy. EIA plans to build on its experience by updating the 1985 report, rather than to develop a completely new and independent assessment. This will be done on the basis of an annual survey of the domestic uranium industry. The survey itself is not slated for extinction.

We plan several changes in the Energy Markets and End Use area. First, EIA is requesting funds to conduct a National Buildings Energy Consumption Survey in FY 1986 and to begin work on a residential energy consumption survey which would be fielded in FY 1987. This plan would place each of the three major consumption surveys (residential, manufacturing, and non-residential buildings) on a triennial funding cycle. Since major changes do not occur with great frequency in these sectors, this schedule is sufficient to track and analyze major trends in each of these sectors.

Second, we are proposing to terminate the Financial Reporting System in FY 1986. This program is legislatively mandated, and the Administration will be submitting proposed legislation in the Omnibus Reports Reduction Act to repeal the requirement contained in Section 205 of the Department of Energy Organization Act. The Financial Reporting System collects and publishes financial and operating data on major energy companies. Trends in investments, profits, costs and competitive structure are analyzed. This data collection form is excessively burdensome and is duplicative of publicly available data. At a time when it is critical to control government spending, the costs of conducting this survey are disproportionate to its uses. The Financial Reporting System has already demonstrated that the major energy concerns surveyed do not show financial performance results indicative of anti-competitive behavior. EIA will continue to be able to analyze the industry's financial and operating performance using publicly available information. I would strongly urge the repeal of this burdensome requirement.

Finally, Energy Markets and End Use is proposing to discontinue the State Energy Data System (SEDS) and the State Energy Price and Expenditure Data System (SEPEDS) and related reports. These systems and reports provide State estimates, by energy source and economic sector, by year. Input for the program is mostly derived from EIA's primary data system. Maintenance of that system has higher priority than publication of non-emergency estimates derived from it. In addition, many State-level consumption estimates are derived from sales, distribution and deliveries data; they are not collected directly from consumers. Accordingly, they reflect a variety of more or less reliable estimation procedures and data series that serve as mere surrogates for consumption.

PROGRAM SERVICES

The Program Services area consists of three activities, each of which provide support to the major energy information offices in different ways: Information Management Services provides computer resources to EIA users and to DOE users on a reimbursable basis. The National Energy Information Center provides information referral and publications support, thereby providing the major means of public access to the National Energy Information System. Statistical Standards assures adherence to EIA quality standards by conducting quality audits of EIA information products, and making recommendations for quality investments that are necessary to prevent or reverse deterioration that naturally occurs in EIA's information systems as a result of changes in the industries themselves. This office is also responsible for forms clearance and public paperwork burden control.

The major program change in FY 1986 is scheduled in the Information Management Services area. EIA is initiating the acquisition of a new Class V computer system in FY 1985, and funds are included in the FY 1986 request to cover the cost of the lease-purchase agreement for that year. Currently, EIA's computer system configuration consists of an IBM S370/3033 multi-processing system and an IBM 4341. Performance analyses demonstrate that the current equipment is tuned to maximum machine capacity. The workload often approaches capacity, resulting in limits being imposed upon user services, especially during prime shift, which occurs during EIA's regular working hours. During the past year, prime shift utilization has averaged in excess of 95 percent at all times, causing inefficient utilization of human resources. Postponements and deferrals in the past have resulted in the overloading of EIA's current computer system and a decrease in user service levels.

EIA's existing system is eight years old and quickly approaching technological obsolescence. The system has been operating at maximum capacity for two shifts each day since FY 1984, and near capacity on the third shift so that maintenance and housekeeping tasks, as well as the installation of new or revised system and program products software, cannot always be accomplished. The result is that backlogs are occurring with increasing frequency, leading to breakdown in processing and delays in critical runs. Slow response from the computer also results in an inefficient use of Federal and contractor staff. In addition, the planned installation of the EPIC/JANUS publications composition system cannot be done within the existing hardware configuration. Publication and product delays and deceases in productivity would be significant if the computer acquisition does not proceed on schedule.

The National Energy Information Center, which is EIA's "window to the world", is continuing its 1986 program at the same level as 1985. No major changes in this program are anticipated.

As I mentioned previously, the Office of Statistical Standards is responsible for assuring the overall quality of EIA's information products. To assure quality, this program, among other tasks, conducts audits of EIA's information products. While there is a nominal transfer of funds to this Office in FY 1986, their overall level of activity is about the same, because this Office currently conducts these audits with quality maintenance funds from the fuel offices' budgets. Thus the mere inter-office transfer of funds results in a more accurate reflection of actual work assignments.

POLICY AND MANAGEMENT

I have already mentioned that the major change occurring in the Policy and Management area is the planned reduction of administrative expenses by 10 percent below their 1985 budgeted level. We will work diligently with the Department's Office of Administration to effect this reduction.

In general, I believe that EIA's FY 1986 request is adequate and balanced. It is flexible enough to allow increases in those areas where EIA needs increases, while accommodating these increases by offsetting program reductions. All of the programs that EIA is proposing for elimination or reduction in FY 1986 are, in my estimation, of sufficiently low priority to warrant this action. We must all be cognizant of the impact that dangerously high deficits can have on the economy of this nation. All of us in government can play a part in taking action against this deficit by insisting on resource levels that are no more than what is necessary to accomplish program objectives. In the case of EIA's FY 1986 budget, I believe that the recommended resource levels are adequate to accomplish EIA's objectives.

I will be glad to answer any questions the Committee may have.

INTRODUCTION OF ASSOCIATE

Mr. MERKLEIN. Thank you, Mr. Chairman. The gentleman next to me is Mr. Al Linden. He is the Deputy Administrator of EIA, and has been with EIA since its inception.

Senator MCCLURE. Thank you, sir.

REQUEST FOR NO-YEAR FUNDS

For the second year in a row you've requested language that would allow certain funds to remain available until expended. Can you provide a breakdown of what this money might be used for and why it is necessary that they be no-year funds?

Mr. MERKLEIN. Mr. Chairman, this relates to our consumption studies. This particular request is scheduled for our commercial/nonresidential buildings energy consumption study. These studies have been put on a 3-year cycle. We have three of those: manufacturing, residential, and commercial buildings. Because each study takes longer than a year to conduct, we would like to obtain the appropriation for each study at one time so we have the funds to carry it through, rather than being in jeopardy of having the funds interrupted as a result of a budgetary accident about this time of the year.

FINANCIAL REPORTING SYSTEM

Senator MCCLURE. In fiscal year 1986 you propose the elimination of the financial reporting system. S. 992, the Congressional Reports Elimination Act of 1985, was recently introduced and referred to the Senate Governmental Affairs Committee. Among other things, this legislation would repeal the requirement for the financial reporting system. Why is the FRS no longer necessary?

Mr. MERKLEIN. Mr. Chairman, the financial reporting system provides a performance profile for 25 major energy companies. This requirement was instituted at a time when, perhaps not without apparent reason, there was great concern, due to a rise in crude oil prices, that the oil companies might take advantage of the price umbrella that presented itself under OPEC pricing policies. We have collected the data in FRS for many years now.

The data involved reflect a leveling of certain individual company data to conform to our questionnaires. As a result, they are reflective of the group of 25 companies, but not particularly reflective of any one individual company; the data are no help in looking at individual companies. They are not of any particular help, as far as I can tell, in defining the industry as a whole. For example, they represent only about 50 percent of the total oil production in this country and a similar amount of the gas production.

As regards the preoccupation at the time when the requirement for this report was instituted, concerning extraordinary profits that these companies might make, it has been shown subsequent to the price rise in 1973–74 that their rates of return, expressed almost any way you wish to express them, have been reflective of the 400 Standard & Poor companies, the top companies in the Nation. This was during price control times.

Then in 1979 and 1980 prices rose again. Since January 1981, prices have not been under control; and yet, given the competitive environment in which these companies operate, their profits have come down where they are just about normal again. So I think the FRS data prove that the concern that Members of Congress had concerning inordinate profits, while understandable, was perhaps in retrospect not justifiable.

Senator McCLURE. Now the FRS is an aggregated figure; is that correct?

Mr. MERKLEIN. For one-half the oil production and about one-half the gas production, that's correct.

Senator McCLURE. What you do is get the information and then aggregate it. Is the raw information supplied to you proprietary?

Mr. MERKLEIN. Yes; we have a form that the companies must fill out, and the way in which they provide the data is not necessarily the way in which they would provide it on their own.

Senator McCLURE. Is the individual information by company a matter of public record?

Mr. MERKLEIN. In some areas it is, in some areas it is not. The FRS is different from information generally available in that the major oil companies in this FRS report have the data segmented by marketing, by exploration, by production, and by refining.

Senator McCLURE. And that is not available elsewhere?

Mr. MERKLEIN. That would not be easily available elsewhere, that's correct.

Senator McCLURE. Is that proprietary information or is that information available to the public?

Mr. MERKLEIN. I think Al Linden has more experience with that system. I would like to turn it over to him.

Mr. LINDEN. The information we receive is proprietary information, and we treat it as proprietary information.

Senator McCLURE. Again that's proprietary?

Mr. LINDEN. Yes, sir.

Senator McCLURE. Does this information aggregate also the exploration budgets by company?

Mr. MERKLEIN. Yes; it does.

Senator MCCLURE. Is that available elsewhere as readily as it is in your report?

Mr. MERKLEIN. I would like to give you a more precise answer for the record later, but I would guess offhand that it is.

[The information follows:]

EXPLORATION COST DATA

The financial reporting system aggregates exploration expenditures by company.

Exploration expenditure data are readily available in company annual reports to shareholders and in the annual 10-K reports required by the Securities and Exchange Commission. These exploration data conform to Financial Accounting Standards Board Statement No. 69, which requires reporting of acreage acquisition expenditures and total exploration expenditures separately for the United States and for those foreign areas in which the company owns significant proven reserves of oil and gas.

DATA ON IMPACT OF MERGERS

Senator MCCLURE. If you would do so. Obviously the reason you ascribe to the creation of the FR system is accurate, and I certainly have no doubt at all about the fact that the original reason is no longer a current preoccupation of the Congress. Congress, however, has a growing interest: the question of what the recent takeover bids in the market, what effect that may have on the financial condition, the operating budgets and the capacity of the companies to continue to explore for and recover oil and gas and add to our reserves. If this is the only information or even the best form of information bearing on that question, there might be a reason why the Congress would want to keep the reporting system alive.

Mr. MERKLEIN. We'll address that question in our answer Mr. Chairman. I would say offhand that in terms of individual mergers, the FRS is not a good source. In terms of the overall impact on the industry, keeping in mind that we're talking in purely competitive terms, about 25 major oil companies out of a total of several thousand companies, the FRS would in some ways be a convenient source of information.

[The information follows:]

USE OF FRS IN MERGER STUDIES

Company-specific financial reporting system [FRS] data have not been used in recent years in the analysis of merger activities. The Federal Trade Commission [FTC] has a primary obligation under the Hart-Scott-Rodino amendments to the Calyton Act (15 U.S.C. section 18A) to analyze the probable impact on competition of proposed corporate mergers. Although companies involved in mergers have authorized the EIA to provide, upon request by the FTC, numerous EIA data submissions, including the FRS, the FTC has shown no interest in obtaining the FRS data during the past several years.

Recent FTC-requested merger calculations included the Texaco-Getty, Gulf-Socal, and Mobil-Superior proposals. In those calculations, the FTC took into consideration reserves, supplies, and marketing information drawn from existing EIA surveys other than the FRS. Thus, while the FRS data were available and known to the FTC, they were not used.

REPEAL LEGISLATION

Senator McClure. If legislation is not enacted repealing this provision, what would be your intent in fiscal 1986 with respect to this requirement?

Mr. Merklein. We'll run the FRS.

Senator McClure. What would your estimated cost be for that activity in the event the requirement is not repealed?

Mr. Merklein. We would need $500,000 for contract support.

Senator McClure. Thank you.

Mr. Merklein. If I may add, this year's budget minus the $1.5 million supplemental quality catchup amount, is numerically the same as last year's budget. I think we could accommodate the FRS with our staffing level.

ELIMINATION OF SEDS AND SEPEDS

Senator McClure. I note that again you have proposed elimination of the State energy data report and the State energy price and expenditures report. These reports provide historical data on State-level energy consumption, price, and expenditure data by sector and product. Have you found another source for this data that would make your work duplicative?

Mr. Merklein. The primary reason that we are not enamored with the SEDS and SEPEDS system is that it is secondary data. It is also dated. Our latest SEPEDS report has just come out. Its publishing date is May 1985 and the latest entries are May 1982. It's a bit obsolete, and that's another reason we don't like it. The only Federal Government agency that I'm aware of that actually uses the data is the Social Security Administration, and we are working with them to devise a mechanism where they could fulfill their mandate on the LIHEAP Program and create allocation formulations. We would not leave the SSA stranded after eliminating the reports.

Senator McClure. You've identified the fact that this data is obsolete. Is there an inherent reason why it is so far out of date by the time you get it, or maybe—let me rephrase that: Is there a way of getting more current data?

Mr. Merklein. Again I would like Mr. Linden to address that question.

Mr. Linden. The only way that we could get faster data would be with some very burdensome reporting requirements. SEDS and SEPEDS are what we refer to in the business as derived data. This is data that we collect from other sources. Then we apply shares and ratios to the individual States based on some general past trends. It is a very involved process.

For example, our distillate sales annual report, information which has State distillate fuels information, is about 1 year old when we get that in and processed. So we have to get all the annual information in from other sources first before we can derive this data to the State level by the various energy sectors. It would be somewhat difficult for us to speed it up.

Senator McClure. Is there any other source of the State-by-State data?

Mr. Linden. At that level of detail, not to my knowledge. Some States, however—for example, California—do have that level of detail. But it's not universal across States, and it's not federally collected.

Senator McClure. In California then do you take their data or do you make allocations in the same manner you do for the States that don't have it?

Mr. Linden. It's a combination of both, because their data isn't quite identical to what we collect. However, we look at their information for guidance and make sure that we're not out of line.

Senator McClure. Trying to find out whether their data is good or whether yours is?

Mr. Linden. We don't try to compete, we try to work cooperatively.

Senator McClure. Yours is a methodology and theirs is simply collection?

Mr. Linden. Yes, sir.

Senator McClure. Therefore, the methodology is subject to some cross checks?

Mr. Linden. Yes, sir, that's true.

Senator McClure. I might state parenthetically for the record that although the Congress and the administration have a difference of opinion on this subject, Congress has looked at past energy crises and said in the event of shortage in the future there may be the attempt made to allocate supplies by State. I know the administration doesn't like to even discuss, let alone think about, things of that nature.

Nevertheless, that's one of the reasons the Congress has insisted on this provision, because if we're going to have any kind of an allocation system by State it has to be based on something. It's better to have old data and projections than to have none, isn't it, if you're going to enter into that kind of activity?

Mr. Merklein. The LIHEAP Program, which is the program now using this set of data, is a block grant program. I would be very uncomfortable thinking that this data would be used for an allocation system.

Senator McClure. You would be even more uncomfortable if we tried to run an allocation system without even that much, wouldn't you?

Mr. Merklein. Mr. Chairman, I'm here as the Administrator of EIA, and I have to remind you, as I do the Secretary from time to time, that this is a policy question and I would happily just as soon not get involved in it.

Senator McClure. I recognize the difference, but if Congress is going to ask at some point that an allocation system be used, it ought to have some data upon which to start.

Mr. Merklein. Yes; it would have to have some data. You'll get into a burden problem that is nothing compared to what we have today, because you would probably then want to have data that are primary, that are more timely, that are statistically accurate—this is a stopgap measure.

Senator McClure. It would be more of a burden, more difficult and more expensive to develop a better system?

Mr. Merklein. Oh, yes, sir, it would be.

NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY

Senator McClure. The nonresidential buildings energy consumption survey was last conducted in 1983 and according to your justification is the only statistical data set in either the public or private sectors providing information on the characteristics of nonresidential buildings and the energy consumption and expenditures related to these buildings. During fiscal year 1986, your staff will begin implementation of a survey for this sector based on a sampling frame built during fiscal year 1985. Will there be any changes or improvements in the 1986 survey over the 1983 survey?

Mr. Merklein. Mr. Linden wants to answer that.

Mr. Linden. Yes; there will be. The 1983 survey and the one prior to that were based on a proprietary data base that we received from a private firm. The survey that we'll be doing in 1986 will take off from that, but it will also be based on a new sampling frame that will have been developed by us. There are a number of major differences.

In 1983 we did not include Alaska and Hawaii; in the 1986 study we'll include Alaska and Hawaii. Also, some of the buildings we would have been resurveying for the third and fourth times using the 1983 format. What we're trying to do with the new survey is get out of going back four or five times to the same person for the same information, because that tends to be burdensome and causes more difficulty in collecting the data. We are trying to structure our sample so we won't do that, thereby reducing the burden.

We get the information on how much is expended in the way of energy from the utility companies, because they have the data for an individual concern or an individual building readily available and automated, and we can ask them for their customers in a given area and get that information. If we go to the same utility and bang on them a second time, they get upset with us, so it's better if we can go two times to one and then to a different one. It shares the burden out and we found that to be much more successful.

Senator McClure. There's no value in year-to-year tracking?

Mr. Linden. We'll have a limited number of the same buildings in there for longitudinal purposes.

CONSUMPTION SURVEY CYCLE

Senator McClure. Thank you. The residential energy consumption survey is the Nation's primary source of statistical data on energy consumption and expenditures in the residential area. For fiscal year 1986 you're proposing to change this survey from a 2-year cycle to a 3-year cycle. Is fiscal constraint the reason you're proposing to change the cycle?

Mr. MERKLEIN. Mr. Chairman, there are two reasons. One is fiscal constraint. We have essentially three energy consumption studies, each a little longer than 1 year in duration, and we have cycled them so we will have one every year. That makes for an even and more efficient flow of funds through the organization and allocation of skills and talents within the organization. To some extent it also reflects my view that, on the consumption side, the data are not quite as critical as they are on the supply side.

The embargo that we had, after all, was a supply embargo. OPEC, which I suppose we'll all agree has given us a great deal of problems over the years, is a supply organization. The intent of spacing those consumption surveys over 3 years serves the purpose of keeping track of broad consumption trends in the areas without collecting detailed information on a year-by-year basis.

Senator MCCLURE. Have you from the information you've acquired so far seen large changes year after year?

Mr. MERKLEIN. I wasn't here, as you know, for the previous surveys. I would like for Mr. Linden to answer that question.

Mr. LINDEN. We have not seen it other than in the area of wood consumption. We had a significant amount of wood stoves being used in the residential sector during the time of higher oil prices. Whether you survey once every 2 years or every 3 years, it would not necessarily be significant. Having one survey each year also allows us to have a more level staffing, rather than staff up one year and staff down the next year. This gives us a more even workload that we can deal with, and that's important in the long run.

Senator MCCLURE. Do you have any idea how much money it will save?

Mr. MERKLEIN. About $250,000 a year per survey.

Senator MCCLURE. That's in the cycling of all three, not any one, but the combination of all three?

Mr. MERKLEIN. For the three surveys taken together, the annual savings will be $750,000.

STATE HEATING OIL PROGRAM

Senator MCCLURE. Since no funds are requested to conduct a State Heating Oil Program, is it your intent to discontinue this report or fund it out of prior-year funds?

Mr. MERKLEIN. The fiscal 1985 allocation has funds for the coming heating season, and so this coming season we'll continue with the program.

Senator MCCLURE. That would be the combination of the end of fiscal 1985 and the beginning of fiscal 1986?

Mr. MERKLEIN. That's correct. Most of it falling into fiscal 1986, really.

Senator MCCLURE. Yes.

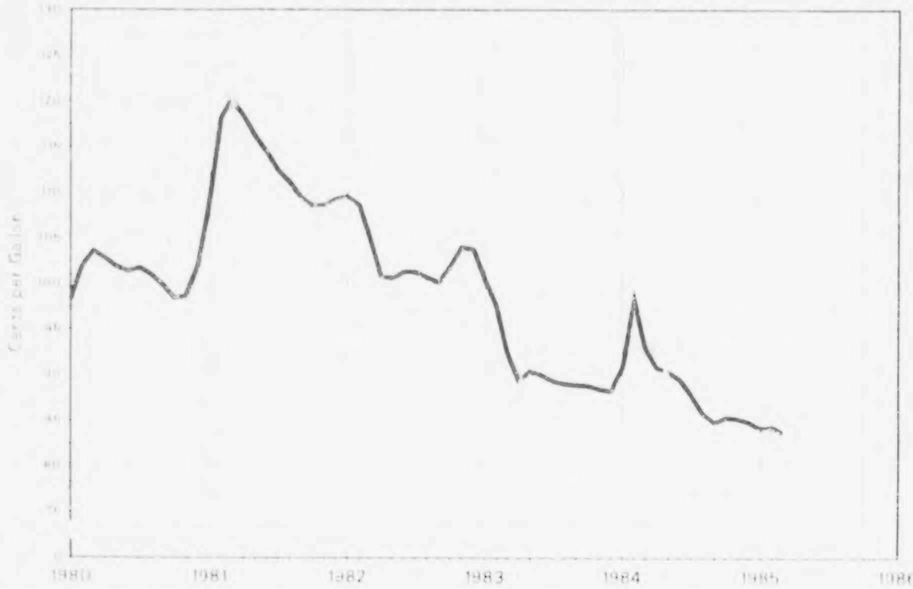
Mr. MERKLEIN. We would prefer after that to discontinue the program. As you well know, the program is essentially designed to provide data for the New England States that, with reason, became very concerned at one point in time concerning the supply and availability of heating oil.

HEATING OIL PRICE TRENDS

I have brought a chart with me to explain in some detail what really happened. Mr. Chairman, you will see an overall downward trend in the price of heating oil after inflation correction.

RESIDENTIAL HEATING OIL PRICES

The following chart, "National Average No. 2 Fuel Oil Prices, 1980 to Present," represents BLS data on residential prices during the covered period in constant 1980 dollars.



Source: No. 2 Fuel Oil Prices: Bureau of Labor Statistics (BLS), "Indexes of Fuels and Utilities for Residential Usage." Deflator: BLS "Consumer Price Index—All Urban Consumers" (CPI-U).

Senator McCLURE. What is the scale?

Mr. MERKLEIN. You have the price of heating oil in terms of cents per gallon, adjusted for inflation.

Senator McCLURE. What is the bottom and the top of the chart?

Mr. MERKLEIN. On the horizontal scale you have time—years and months. You will note that, with the exception of this season, we have seasonal peaks during the winter season every year. In the winter, December 1984 and January 1985, we had a dramatic increase in the price of heating oil.

Senator McCLURE. What does each block, how much does that represent in the vertical scale?

Mr. MERKLEIN. This, for example, is $1 per gallon. The next block is $1.10 per gallon, for 10-cent increments. The scale bottoms out at about

80 cents. You see the seasonal peaks, and the peak was particularly accentuated in 1984. It's clear that at this point in time why there was considerable concern in the region affected, and that concern was, of course, transmitted to the Congress and through the Congress to us; because at this point in time, simply by extrapolation, nobody could tell whether the price of heating oil might not be right back to where it was 2 or 3 years earlier.

This turned out not to be the case. For the year at large, the price of heating oil was less than it was the preceding year. The week in the year that gave us all this problem had a lower price than the same week the year before, and today in real terms we have the lowest price of heating oil in many, many years. So while at this point in time the obligation was placed on us concerning both the allocation of funds and also for weekly reports on the heating oil distillate stock for the Northeastern States, in retrospect, perhaps the attitude was a bit more alarmist than subsequent events would have justified.

Senator McCLURE. Just for the record, because the written record cannot see the chart, your horizontal scale is in 1-year increments; is that correct?

Mr. MERKLEIN. That's correct.

Senator McCLURE. And the highest-priced point is represented in what year?

Mr. MERKLEIN. In February 1981, and it is approximately on the order of about $1.21, $1.22 per gallon.

Senator McCLURE. And that shows a very sharp rise of about 20 cents per gallon in that heating season?

Mr. MERKLEIN. That's correct.

Senator McCLURE. The following year, while there's a rise, it's a very, very small rise in 198——

Mr. MERKLEIN. In the season 1982-83.

Senator McCLURE. Then again in 1983 there's a slightly larger rise, but not nearly as large—a little less than 5 cents a gallon. Then last year you see a very sharp rise of almost 10 cents a gallon; is that correct?

Mr. MERKLEIN. That's correct, in deflated dollars, in real dollars.

Senator McCLURE. That's a national average, not just for New England?

Mr. MERKLEIN. That's correct.

Senator McCLURE. Do you have it broken down by region?

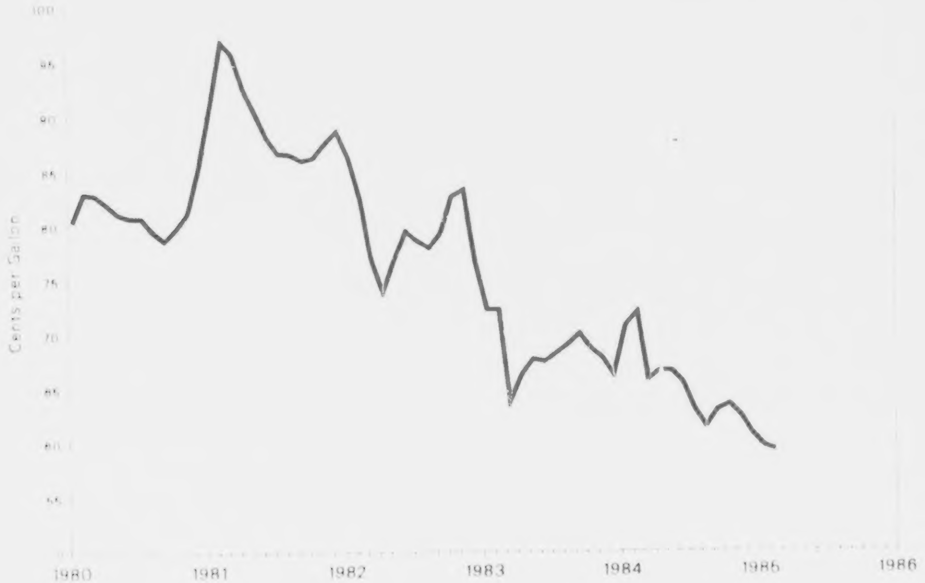
Mr. MERKLEIN. No, sir; but we could provide it for the record.

Senator McCLURE. Would you provide for the record over the same timeframe the price movements by region of the country so far as you have that broken out separately? I don't want you to make a big research project out of this, but if it's readily available I would appreciate it. And second, if you could on both sets of information include the delivered wholesale cost—in other words, the cost delivered to the job in the market area as compared to the price paid by the consumer in the region.

Mr. MERKLEIN. Yes, sir.
[The information follows:]

WHOLESALE HEATING OIL PRICES

The following chart, "National Average Wholesale No. 2 Fuel Oil Prices," represents EIA data for the period 1980 to present.

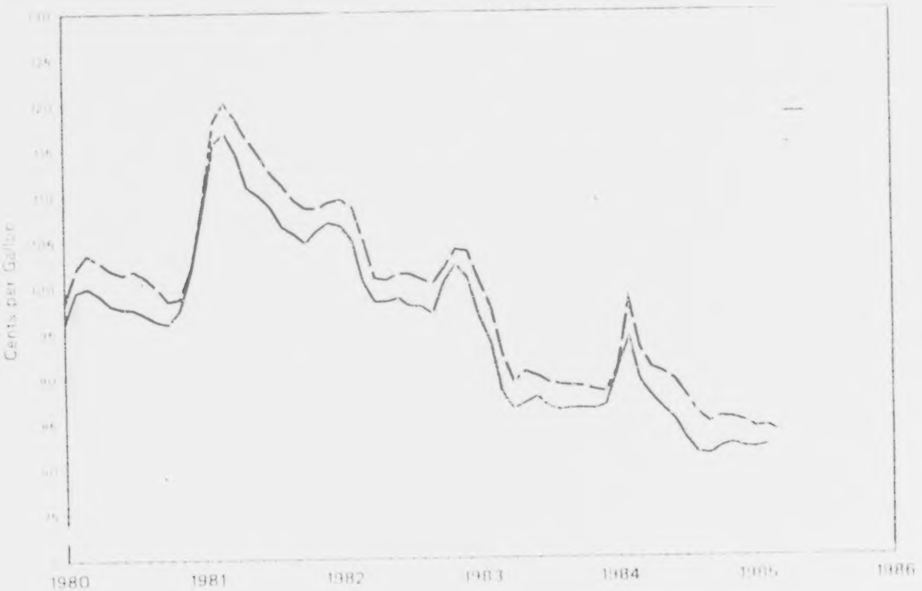


Source: No. 2 Fuel Oil Prices: Energy Information Administration, "Monthly Petroleum Product Price Report," 1980-1982, "Petroleum Marketing Monthly," 1983-1985. Deflator: Bureau of Labor Statistics (BLS), "Consumer Price Index — All Urban Consumers" (CPI-U).

COMPARISON OF EIA AND BLS DATA ON RESIDENTIAL HEATING OIL PRICES

The following chart, "National Average Residential No. 2 Fuel Oil Prices," compares EIA and BLS statistics. BLS prices appear to be higher by less than 4 cents per gallon due to inclusion of taxes, as well as differences in the way the survey data were collected. Nevertheless, both series show similar trends.

National Average Residential No. 2 Fuel Oil Prices
(Constant 1980 Dollars)



Source: No. 2 Fuel Oil Prices: Energy Information Administration, "Petroleum Marketing Monthly" and Bureau of Labor Statistics (BLS), "Indexes of Fuels and Utilities for Residential Usage";
Deflator: BLS, "Consumer Price Index — All Urban Consumers" (CPI-U).

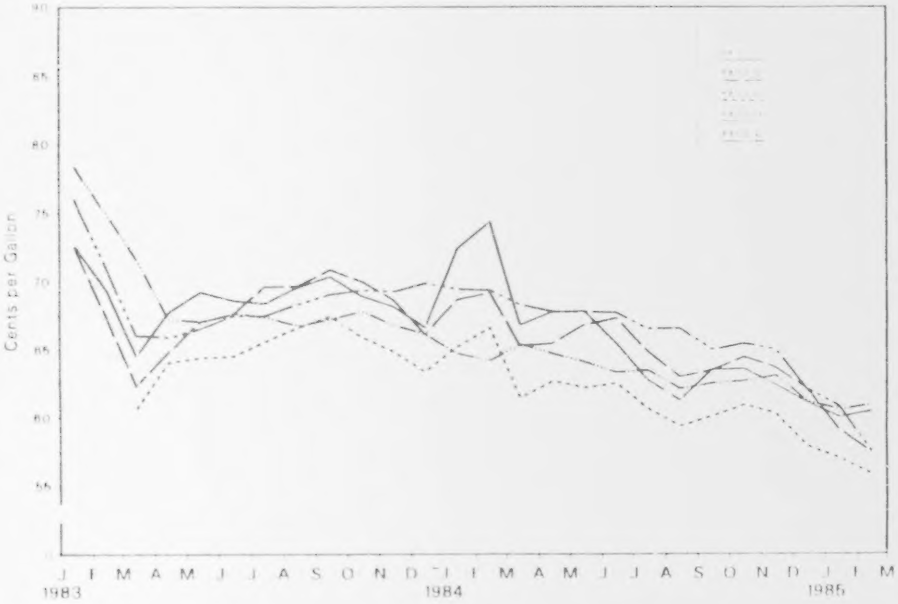
REGIONAL COMPARISONS OF HEATING OIL PRICES

The following charts on wholesale and residential heating oil prices are displayed by Petroleum Allocation for Defense District [PADD] from 1983 to present in constant 1980 dollars. (EIA heating oil data were aggregated by Federal region prior to 1983 and are excluded due to incompatibility with the PADD aggregations thereafter.)

Representation of PADD III price data is omitted from January to mid-March 1983 on the wholesale chart, and from January to mid-May 1983 on the residential chart due to suppression of confidential information. PADD V residential price data are omitted from January to mid-March 1983 and from mid-January to mid-March 1984 for the same reason.

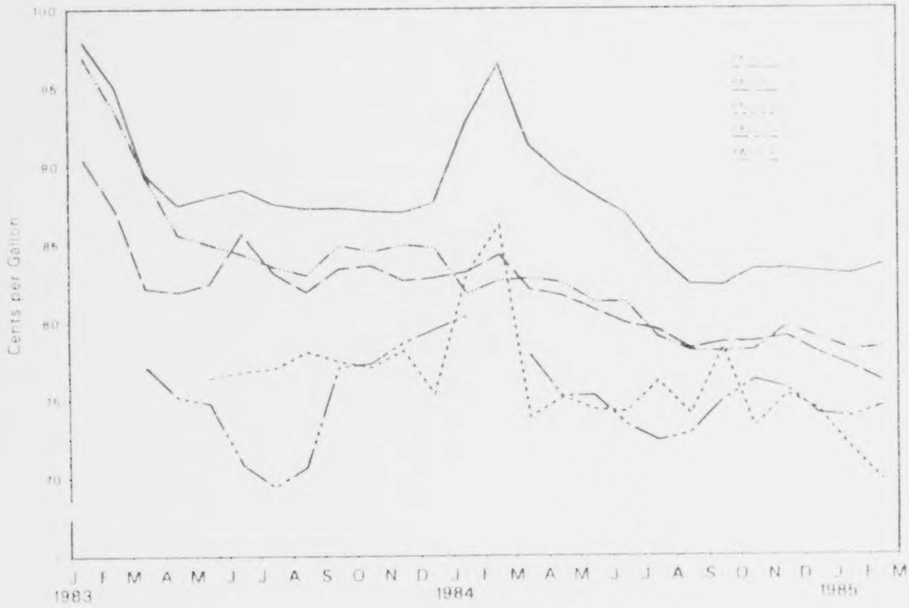
As regards No. 2 fuel oil prices in PADD I, which includes the New England States, two characteristcs stand out: 1. the real price, at the whole sale and retail levels, has been declining steadily from its February 1984 peak; and 2. the inflation-adjusted retail price had become so soft that the 1984-85 heating season did not exhibit a seasonal peak, as it had in the preceding years.

Regional Wholesale No. 2 Fuel Oil Prices (Constant 1980 Dollars)



Source: No. 2 Fuel Oil Prices: Energy Information Administration, "Petroleum Marketing Monthly"
Deflator: Bureau of Labor Statistics, "Consumer Price Index — All Urban Consumers" (CPI-U)

Regional Residential No. 2 Fuel Oil Prices
(Constant 1980 Dollars)



Source: No. 2 Fuel Oil Prices: Energy Information Administration, "Petroleum Marketing Monthly".
Deflator: Bureau of Labor Statistics, "Consumer Price Index — All Urban Consumers" (CPI-U)

PURCHASE OF COMPUTER SYSTEM

Senator McClure. Thank you. A new class V multiprocessor computer system is being acquired by EIA in fiscal year 1985 and funds will be required in fiscal year 1986 to continue a lease purchase contractual arrangement. Originally this computer system was planned to be installed in fiscal year 1984.

Technology moves quickly, especially in the computer industry. I guess what I'm really concerned about is that you don't lock yourself into a position where you have purchased equipment which by the time of the purchase has become obsolete. Is the system you're now purchasing today as advanced as it was when you originally intended to purchase it?

Mr. Merklein. I would like to defer that question to Mr. Linden.

Mr. Linden. Yes; it is. The equipment that we're buying is state of the art. In fact with respect to the level of the computer that we're buying now, there's been maybe a quarter of a generation improvement in the equipment that we've proposed. But we tend to like to do it this way simply because we want to buy a proven product rather than having the first of a given lot off the assembly line. It tends to work much better. We were very successful the last time, and the equipment we have now has lasted us about 7 years; and we expect this equipment to last at least 5 to 7 years, unless there's an unknown amount of workload that we can't forecast right now.

Senator McClure. You had planned to buy it in 1984. Because of the delay, did the cost of the computer increase or decrease?

Mr. Linden. We would like to supply that for the record. But in general, computer equipment prices have gone down. We would expect the price to be at least the same, if not cheaper this year.

Senator McClure. Would you provide for the record what you think it would have cost you to purchase in 1984?

Mr. Linden. Yes, sir, versus today.

Senator McClure. And then when you've gotten the bids and the purchase contract signed, would you provide us that information?

Mr. Linden. Yes, sir.

Senator McClure. Thank you.

[The information follows:]

Reductions in Computer Hardware Prices

The cost of computer hardware generally has decreased with time. EIA's class V computer system was estimated to be $13.5 million in fiscal year 1984. Due to recent price decreases in computer hardware, the same system is now estimated to be about $12.1 million. This cost saving, and any savings obtained from EIA's competitive procurement, will be realized in the later stages of the procurement.

ADDITIONAL COMMITTEE QUESTIONS

Senator McClure. I have some additional questions which I'll submit for the record and other members of the committee may also have some questions. I would hope they would have them submitted by the close of business on today for response to the record, and I hope you would get the responses in as quickly as possible.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

State Energy Data System Elimination

Question: I note that again you have proposed elimination of the State Energy Data Report and the State Energy Price and Expenditures Report. These reports provide historical data on state-level energy consumption, price, and expenditure data by sector and product. By not requesting funds for these reports, are you still in compliance with all your legal requirements? If so, I note that the Energy Emergency Preparedness Act of 1982 states that "The President or his delegate shall, . . . collect information on the pricing, supply, and distribution of petroleum products by product category at the wholesale and retail levels, on a state-by-state basis, which was collected as of September 1, 1981, by the Fnergy Information Administration." Since the language states "collect" and not "distribute" you feel by simply collecting, you will be in compliance with this requirement?

Answer: The Energy Information Administration complies with the Energy Emergency Preparedness Act of 1982 by collecting and publishing petroleum product stocks, prices, and sales data, by State, in several reports, including the Petroleum Supply Monthly, and the Petroleum Marketing Monthly. The State Energy Data System (SEDS) and the State Energy Price and Expenditures Data System (SEPEDS), proposed for elimination in the FY 1986 budget request, are data management systems whose function is to redistribute primary data gathered at the regional or national level into State level estimates. Data such as the petroleum product data, gathered at the State level, are used directly by SEDS and SEPEDS. As has been stated often in the past, a large majority of the information is available elsewhere, though in a less convenient form. Eliminating the reports is, in our view, consistent with our mandate to collect and publish relevant information and with our responsibility to do so in an efficient and economical manner.

Question: What is the cost of these reports?

Answer: SEDS and SEPEDS cost approximately $100,000 per year in contract funds. This work also requires two DOE staff years of effort which could be absorbed in the requested staffing level.

State-Level Energy Estimates

Question: These reports are used by the Low-Income Home Energy Assistance Program to allocate program funds to the States. If EIA doesn't provide these reports to the Department of Health and Human Services for LIHEAP, what information would they use to allocate LIHEAP funds to the States in the future?

Answer: SEDS and SEPEDS are derivative efforts. They use primary data from many sources, together with calculated estimates, to produce consistent, balanced energy series on a State-by-State basis. The data on which they are based are available, in less convenient form, in the primary EIA data systems. We expect the LIHEAP Program, and others who use the data, to rely directly on EIA's primary data systems. We will work with the Department of Health and Human Services, as we have in the past, to develop the best estimates using all available data.

Question: How accurate would it be?

Answer: EIA is currently starting a systematic study of user needs for State-level data, particularly LIHEAP, and will ensure that an adequate system remains in place for satisfying programmatic needs for State-level data that EIA is uniquely qualified to provide. We are aware of the fact that the Department of Health and Human Services needs State energy data to fulfill its Congressional mandate concerning LIHEAP, and we do not intend to leave them in a position where they would be unable to meet their obligation.

Quality Maintenance Activities

Question: In fiscal year 1986, your budget justification indicates that quality maintenance activities will be conducted at a reduced level. It appears from your key activity summaries that these activities will be conducted only in the Oil and Gas area under Collection, Production and Analysis. Is this the only area in which you propose to conduct quality maintenance and, if not, describe where and what funding you propose for these activities?

Answer: The FY 1986 request for quality maintenance activities ($2.5 million) is essentially the same as the FY 1985 budget ($4.0 million), except for the one-time catch-up funds in the amount of $1.5 million. Those funds will permit EIA to put its quality maintenance activities on a current basis by the end of FY 1985. Specifically, we are proposing to fund quality maintenance activities at $2.5 million for FY 1986. This funding would be distributed as follows: Under Collection, Production and Analysis, $1.1 million for Oil and Gas, $.5 million for Coal, Nuclear, Electric and Alternate Fuels, and $.2 million for Energy Markets and End Use; and under Program Services, $.7 million for Statistical Standards.

Question: I note that in fiscal year 1985 there was a backlog of quality maintenance activities. Has this backlog been eliminated or are you simply going to declare victory and ignore it?

Answer: A large portion of the monies for quality investments in 1985 went towards the elimination of the backlog in documentation of data systems and models and updating frames. By the end of 1985 documentation of existing systems and models will be up to date. Minor frame updates will have been completed, and updating of two large frames will have been started with anticipated completion in fiscal year 1986. A start will have been made in establishing the maintenance of ongoing series of performance statistics so that any future deterioration can be rapidly detected. In addition, some needed testing and updating will have been performed, as well as some evaluations, and some system improvements. We believe that the requested amount for fiscal year 1986 will enable us to keep abreast of these activities.

Question: Were any of the programs which the quality maintenance was intended deleted, and thereby eliminating the need for quality maintenance?

Answer: No programs have been eliminated for which quality maintenance was intended.

Alternate Fuels

Question: You are proposing to conduct no alternate fuels activities in Fiscal Year 1986. Are you proposing to change the annual Solar Collector Manufacturing Activity report to a biannual publication, or eliminate it altogether?

Answer: No plans have been made to produce the Solar Collector Manufacturing Activity report after the fiscal year 1985 report has been published. When we performed a review of user requirements for alternate fuels data in 1985, we did not find a significant amount of interest in this type of data. This is in part due to the fact that direct solar energy comprises less than .2 quads (less than 0.3 percent) of domestic energy supply.

Question: Will the other monitoring activities of the alternate fuels program simply be eliminated?

Answer: Given the current budget deficit and relatively low priority expressed by our users for this type of data, we have not requested any contract funding for a separate alternate fuels program in fiscal year 1986. However, we continue to collect alternate fuels data in conjunction with our more comprehensive data collection program. For example, our electric power data collections provide virtually 100 percent coverage of geothermal energy production, and our Residential Energy Consumption Survey provides data on wood energy use in that sector. In addition, the Manufacturing Energy Consumption Survey, scheduled for 1986, seeks information about alternate fuels. Therefore, especially with regard to wood, EIA does not intend to discontinue collecting or reporting consumption information. We merely propose to eliminate a specific report solely dedicated to this subject.

Computer System Life and Capabilities

Question: According to your justification, the current computer system is overloaded and out of date technologically. How long will the new system accommodate your needs?

Answer: The new computer system will accommodate workload requirements for approximately five to seven years.

Question: What additional capabilities will you be able to perform with this new computer?

Answer: The new computer system can accommodate the following additional capabilities:

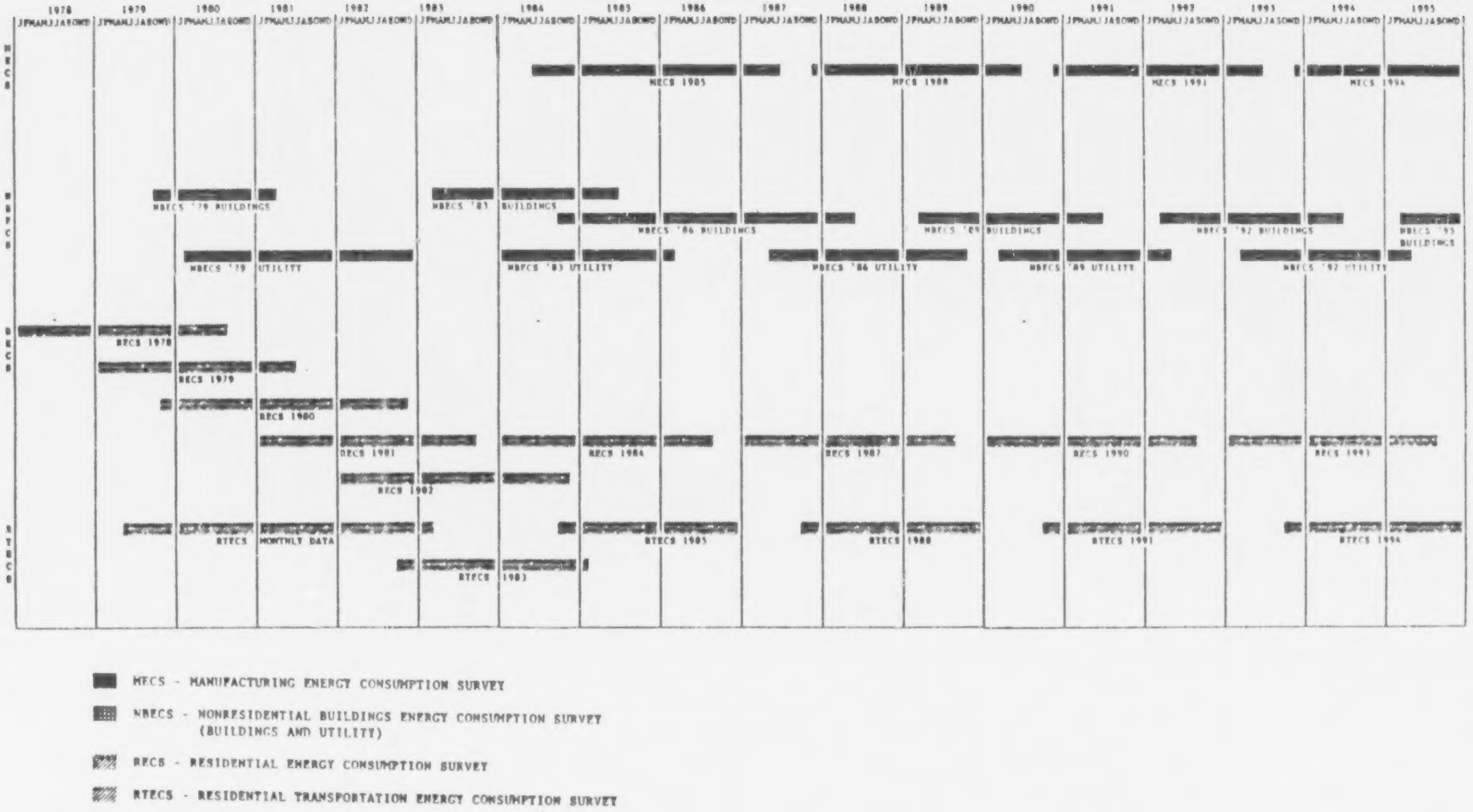
1. Increased system capacity to lessen backlogs and meet additional, substantial demands for prime shift services.
2. Improved analytical capabilities to support activities such as Strategic Petroleum Reserve (SPR) analysis and forecasting, electronic spreadsheet analysis, and interactive statistical techniques.
3. Improved analytical capabilities to support the Federal Energy Regulatory Commission's interactive natural gas rate analysis and design system.
4. Improved ability to run EIA's automated publications composition system (EPIC/JANUS) in a full production mode.
5. Enhanced managerial, professional, technical, and secretarial/clerical productivity through DOE's Automated Office Support System (AOSS).

Overview Description of the Energy Consumption Surveys

Question: You are proposing to change your energy consumption surveys to a three year cycle. If these changes are enacted, can you explain the time cycles all of your surveys would run?

Answer: The energy consumption surveys are a rotating set of surveys for the following three sectors: residential and residential transportation; nonresidential buildings; and manufacturing. The energy consumption surveys are part of the Energy Information Administration's core program. Beginning with FY 1986, the surveys are scheduled to be on a triennial cycle, with one survey funded and initiated each year. The Manufacturing Energy Consumption Survey was funded in FY 1985 and will collect data for calendar year 1985. A Nonresidential Buildings Energy Consumption Survey is included in the FY 1986 budget and will collect data for calendar year 1986. The Residential Energy Consumption Survey, including residential transportation, will be in the FY 1987 budget and will collect data for the 1987-88 period. A detailed chart of the collection schedule follows.

SCHEDULE FOR ENERGY CONSUMPTION SURVEYS



SUBCOMMITTEE RECESS

Senator McClure. That, I think, will conclude the testimony today. The subcommittee will stand in recess until 10:30 a.m., Thursday, May 16, 1985, when we will hold an outside witness hearing on clean coal technology. Thank you.

[Whereupon, at 3 p.m., Wednesday, May 15, the subcommittee was recessed, to reconvene at 10:30 a.m., Thursday, May 16.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

THURSDAY, MAY 16, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:10 a.m., in room SD-138, Dirksen Senate Office Building, Hon. James A. McClure (chairman) presiding.

Present: Senators McClure, Byrd, Johnston, and Burdick.

NONDEPARTMENTAL WITNESSES

PREPARED STATEMENT

Senator MCCLURE. The committee will come to order.

I would like to express my sincere thanks and appreciation to all of you who have taken the time to testify today on the emerging clean coal technologies.

I know I speak for Senator Byrd and many others of this committee and of the Senate when I say that not only are we interested in your comments, but we need them to make sound decisions.

I won't take the time to read my prepared statement in view of the fact that I was late getting here and I have already used up my allotted time, but I will make my statement a part of the record, and I would invite those who may be interested in how I am approaching this problem to read that statement as it is published in the record.

[The statement follows:]

STATEMENT OF SENATOR JAMES A. MCCLURE

Good morning. I would like to express my sincere thanks and appreciation to all of you who have taken the time to testify today on the emerging clean coal technologies. I know I speak for Senator Byrd and others when I say that not only are we interested in your comments, we need them to make sound decisions.

I only want to take a few minutes to summarize the responses to section 321 of the 1985 appropriations bill for the Department of the Interior and Related Agencies. As directed by section 321, the Department of Energy solicited industry interest in projects employing emerging clean coal technology. According to DOE's subsequent report to the committee, they received over 175 responses, with over 150 proposals for specific projects. Over 35 proposals contemplate private cost sharing at a 50-percent or greater rate. I think that this is the strongest evidence available that there are a number of high-quality projects ready to go beyond the proof of concept stage.

I have supported this program, in concert with the distinguished ranking Democratic member of the committee, Senator Byrd, because I believe that a number of technologies that will permit the greater use of coal in an economic and environmentally acceptable fashion are near commercial development. The next decade may well witness a serious shortfall of electrical generating capacity. It may witness an environmental stringency and a demand for acid-clean emissions far greater than current standards. It may witness another petroleum shortage or other energy dislocation that makes us wish we had not retrenched somewhat in our commitment to alternative fuels. However, even if none of these events happen, it seems to me that Congress acted with foresight last year when it set aside $750 million for a new clean coal technology effort. Your responses confirm that judgment.

I can't conclude these brief introductory remarks without at least a small dose of cool water. The Senate recently passed a budget resolution, albeit by the narrowest of margins. While it is not clear what will happen in the other body or exactly what will happen in conference or in the reconciliation process, we need to keep the approximate impact of the Senate-passed resolution in mind. The nondefense, discretionary appropriations level have had a ceiling established in the Senate resolution that reduces the 1985 level appropriations by about $12 billion, from $153 billion to about $141 billion. Overall, this is a cut of about 8 percent. If we reduced our fiscal year 1985 appropriations bill by 8 percent, we would have to reduce previously funded programs by over $700 million. I think it is safe to say that no appropriations bill exceeding its allocation ceiling will be brought to the Senate floor this year.

Finally, let me give you some idea of what Senator Byrd and I will be faced with this year. Can we add $50 million or $100 million or $150 million above the President's budget for the clean coal program? I don't know. How much of a program do we have to have to attract and keep industry's interest so that an effective cost-sharing partnership can go forward? I don't know that either but I believe that your responses to the DOE's solicitation means that there are likely more high-quality projects available than we have money to fund in 1986. There are numerous policy decisions yet to be made with respect to this program, such as the possibility of passing a clean coal technology authorization bill in the Energy and Natural Resources Committee, and I must ask you all to be patient with us while we finalize the guidelines for competition. I would like to emphasize however, that I am fully supportive of a strong, competitive, meritorious, and bipartisan clean coal program and am hopeful to have resolved all these matters by the time this committee marks up an appropriation bill this fall.

Again, let me thank each of you for your attendance here today and now let me ask Senator Byrd if he has any comments before we hear from our first panel.

STATEMENT OF SENATOR ROBERT C. BYRD

Senator McClure. Senator Byrd.

Senator Byrd. Thank you, Senator McClure.

I am very grateful for this opportunity to hold these hearings on the clean coal technology program. We worked together for a number of months last summer with Senator Johnston and other Senators, including Senators Ford, Metzenbaum, Warner, Heinz, Huddleston, Armstrong, Stevens, and Domenici to achieve a compromise on the future of the Synthetic Fuels Corporation.

That compromise, which was embodied in the continuing resolution, established a $750 million reserve in the U.S. Treasury for the purpose of cost-sharing demonstrations of innovative clean coal technologies with the private sector.

Now that that reserve has been established and now that the Department of Energy has completed its report to the Congress, I believe it is time for this subcommittee to begin active consideration of the funding and organizational requirements necessary to carry out the Clean Coal Technology Demonstration Program.

I believe that the reasons for proceeding with the program at this time are numerous and that they are well justified.

First, the continuing acid rain debate throughout the Nation threatens damaging constraints on the use of much of our Appalachian and Midwestern coal reserves. This damage is pervasive. Not only have the coal-dependent economies of Appalachia and the Midwest suffered, but the energy future of this Nation continues to be insecure.

The purpose of this clean coal technology program is to remove some of that insecurity by making the use of America's plentiful coal reserves more attractive from an environmental standpoint.

It is clear that because of the technical and economic risks, the related regulatory uncertainties and the high capital costs, new technologies to use our domestic coal reserves will not be commercialized with any vigor in the foreseeable future without Federal assistance. And, yet, we need to use our coal.

We must reduce our dependence on foreign oil imports. The Energy Information Administration of the U.S. Department of Energy predicts that oil imports will nearly double over the next 10 years if we have moderate economic growth and a mild rise in oil prices.

The bad news is that if we have economic growth that is high in this country or if oil prices remain low, there will be an even greater rise in oil imports in the next 10 years. These imports represent an addictive and insecure energy supply at prices which appear to be attractive today, but which, as we know from past experience, can change dramatically for the worse tomorrow.

Furthermore, these imports represent a severe economic hemorrhage in our already troublesome trade deficit. We are now importing approximately $46 billion a year in crude oil and petroleum products alone.

To make matters even worse, the Minerals Management Service of the Department of the Interior has recently halved its estimates of recoverable U.S. offshore oil and gas resources. So the noose is tightening. We may not feel it around our necks yet, but if we do not plan ahead now to cut that rope, inevitably it is going to tighten and going to choke our economy and constrain our diplomatic options until we are left with a real crisis.

PREPARED STATEMENT

Mr. Chairman, I will not take any further time here to complete the reading of my statement, but I would ask unanimous consent that it be included in the record.

Senator McClure. Thank you very much, Senator Byrd. It is so ordered.

[The statement follows:]

STATEMENT OF SENATOR ROBERT C. BYRD

Mr. Chairman, I thank you very much for the opportunity to hold these hearings on the clean coal technology program. You and I worked for a number of months last summer with Senator Johnston and others (Ford, Metzenbaum, Warner, Heinz, Huddleston, Armstrong, Stevens, and Domenici) to achieve a compromise on the future of the Synthetic Fuels Corporation. That compromise, which was embodied in the continuing resolution (Public Law 98-473), established a $750 million reserve in the U.S. Treasury for the purpose of cost-sharing demonstrations of innovative clean coal technologies with the private sector. Now that that reserve has been established and now that the Department of Energy has completed its report to the Congress (on May 1, 1985), I believe it is time for this subcommittee to begin active consideration of the funding and organizational requirements necessary to carry out the Clean Coal Technology Demonstration Program.

I believe that the reasons for proceeding with the program at this time are numerous and well-justified. First, the continuing acid rain debate throughout the Nation has imposed damaging constraints on the use of much of our Appalachian and Midwestern coal reserves. This damage is pervasive. Not only have the coal-dependent economies of Appalachia and the Midwest suffered, but the energy future of this Nation continues to be insecure.

The purpose of this clean coal technology program is to remove some of that insecurity by making the use of America's plentiful coal reserves more attractive from an environmental standpoint. It is clear that because of the technical and economic risks, the related regulatory uncertainties, and the high capital costs, new technologies to use our domestic coal reserves will not be commercialized with any vigor in the foreseeable future without Federal assistance. And, yet, we need to use our coal.

We must reduce our dependence on foreign oil imports. The Energy Information Administration of the U.S. Department of Energy predicts that oil imports will nearly double over the next 10 years if we have moderate economic growth and a mild rise in oil prices. The bad news is that, if we have high economic growth in this country or if oil prices remain low, there will be an even greater rise in oil imports in the next 10 years. These imports represent an addictive and insecure energy supply at prices which appear to be attractive today; but which, as we know from past experience, can change dramatically for the worse tomorrow. Furthermore, these imports represent a severe economic hemorrhage in our already troublesome trade deficit. We are now importing approximately $46 billion a year in crude oil and petroleum products alone, and this cost would be much higher if the U.S. dollar were not so strong at the moment. To make matters even worse, the Minerals Management Service of the Department of the Interior has recently halved its estimates of recoverable U.S. offshore oil and gas resources. So, the noose is tightening. We may not feel it around our necks yet; but if we do not plan ahead now to cut that rope, inevitably it is going to tighten, to choke our economy and constrain our diplomatic options, until we are left with a real crisis.

If you look back at the history of energy planning in this country, it has traditionally been the crisis which motivates us. We did not plan ahead in the 1970's; and, sadly, as I look around today, I can only conclude that we did not learn our energy lessons from that period.

And, I might add that our present sad state of energy planning and preparedness exists in spite of the tireless efforts of Senator McClure to ensure that energy issues receive thorough consideration. He is to be commended for his efforts in general and his role in forming this clean coal technology program.

The $750 million Clean Coal Technology Demonstration Program represents an opportunity to plan ahead to make the necessary and logical choices now in a well-thought-out and efficient manner. Clearly, we have a tight budgetary situation in the Federal Government at the present time, but Congress made the decision to establish the $750 million reserve and to initiate this program last fall in the midst of the same budgetary climate. Furthermore, as part of the synthetic fuels compromise, which I mentioned earlier, Mr. Stockman, in a letter dated September 25, 1984, indicated his agreement, in principle, to an ongoing fossil energy program to be funded from this reserve. Mr. Stockman clarified this position at a meeting with Senators Ford, Warner, Heinz, and Specter in my office on February 6, 1985, when he agreed to a combined fossil research program and clean coal technology effort which would not exceed the baseline level of $365 million. I believe we can accommodate both programs within that total this year. So, I see no reason for any opposition to the initiation of this program this year on budgetary grounds.

Now, with respect to the emerging clean coal technology report which was submitted by the Department on the first of this month in compliance with section 321 of the continuing appropriations resolution. I appreciate the hard work which the Department has done in compiling this report, but I am disappointed by their continuing opposition to this program despite a clear expression of bipartisan congressional support. The Department indicates in chapter 1 of their report that, based on past experience, they do not believe the Federal Government should be involved in the scaleup and demonstration of coal technologies. Apparently, the Department misunderstands the intended structure of the Clean Coal Technology Demonstration Program. First, it is fundamentally different from the previous Fossil Energy Demonstraton Program. For example, I would expect that the Federal Government would act principally as an investment banker in the clean coal technology program. Accordingly, the Department of Energy would not determine the construction schedules, the need for instrumentation, or other aspects of project design and construction. They would review project proposals for technical merit and provide appropriate levels of Federal cost sharing to offset the risk that the sponsor of a pioneer project would face. In doing so, the Federal Government would be spreading the cost among all those who would benefit from the commercialization of a particular technology.

Furthermore, the committee has already indicated that substantial cost sharing on the part of a private sponsor will be necessary. Anytime the private sector puts up 50 percent or more of the funding for a project, it demonstrates that the sponsor has a strong interest and a commitment to that project's success. Not all the 175 responses for the DOE's report were detailed submissions. However, it is my understanding that 40 percent of those who did discuss cost sharing in their submissions indicated a willingness to pay for more than one-half the project cost themselves. So, there are a lot of project sponsors who are willing to assume the majority of the project cost. I think that is a healthy sign. Clearly, the private sector is seriously interested in demonstrating and commercializing these clean coal technologies, and I think that the 175 responses to the DOE solicitation provide a barometer of overwhelming enthusiasm for the program.

In view of the strong industry response, it is entirely appropriate that Congress reciprocate with a clear signal that the Federal Government is willing to be a reliable partner in this effort. An initial appropriation of at least $100 million for fiscal year 1986 is essential to the credibility of the Federal commitment. I believe that this amount is the minimum necessary to initiate a program. It is imperative that these technologies be demonstrated now because electric utilities will soon be confronting decisions to retrofit or replace a large number of currently existing plants in the near future.

If we are going to influence the decisions of the electric utility industry, we must demonstrate clean coal technologies now. Furthermore, with respect to the industrial and utility sectors, the increasing environmental concerns require the expeditious introduction of clean coal technologies if our abundant coal resources are to be the fuel of choice in the future.

Mr. Chairman, I thank you for your leadership in this area, and I look forward to hearing from industry leaders today, who will discuss their plans to ensure that the goal of greater coal use in an environmentally acceptable manner is achieved.

Senator McClure. I would ask that each of the members of the first panel summarize their statements. The entire statement will be inserted in the record in full. If you can summarize it, it will give us a little further time to ask the questions that need to be asked.

I wonder if you would each identify yourselves to the reporter so that she will know who is speaking and responding as I call your names, and if you will give the staff the required copies of the statements. I think some have not yet been delivered to the staff. If you have not done so, if you would and that would help us in the dissemination of this information.

The first panel consists of Mr. Eric Reichl of the Synthetic Fuels Corporation, Dr. Richard Balzhiser of the Electric Power Research Institute, Mr. Thymus Kuhn of the Edison Electric Institute, Mr. David Webb of the Gas Research Institute, and Mr. Mike Koleda of the Council on Synthetic Fuels.

~~Mr. Reichl.~~

STATEMENT OF ERIC REICHL, SYNTHETIC FUELS CORPORATION

Mr. REICHL. First of all, I would like to thank you for asking me to appear before you today and to present the comments on the Energy Research Advisory Board Clean Coal Use Panel.

By way of introduction, my name is Eric Reichl. I am a member of the Energy Research Advisory Board and I functioned as chairman of the Clean Coal Use Panel of that Board.

The panel was convened about 1 year ago in response to a letter from Secretary Hodel at the time in April 1984 to present ERAB's comments to DOE on their Clean Coal Use Program. I would say we were very fortunate in having the contribution from a group of panel members that included industry, academia, and Government, and it was a group that represented a well balanced and very competent group in all the segments of technology that was visited.

When I talk about all segments of the report, I would like to use this opportunity to spend a minute on I think an issue that is quite important, and that is the definition of scope, of what is clean coal technology, and particularly to assure that we all understand that there is no intent to have any overlap between clean coal use technology and synthetic fuels technology because it is a very easy thing to miss this fact and I think we need to draw a sharp dividing line between them.

Specifically what we have done is we have categorized the oxygen blown pressurized gasifiers that can be used as clean coal use technologies as synthetic fuel systems. They are not included in our report. We also know that this type of gasifier, in fact, makes up the centerpiece of the SFC synfuel program on coal and is adequately covered over there.

On the other hand, or conversely we do include in the clean coal use technologies the air-blown or low Btu gasification systems which are definitely a significant potential means of using coal cleanly, and I think it is of interest that this area is particularly of interest in connection with the electric utilities.

I should add that as far as the overall job was concerned, it is a very broad set of different diverse technologies. It was divided into six areas to cover the cleaning of coal before combustion, the conventional combustion in pulverized furnaces, fluid bed combustion, low Btu gas, which was classified as a two-stage combustion system, postcombustion flue gas cleanup and waste management.

Six individual reports were written and a statement was prepared to summarize it all. The entire report was presented to the Energy Research Advisory Board on May 1, 1985, and was adopted by that Board and the finished copy is currently being printed.

In order to keep my comments as brief as possible, I would only like to use the report to answer five specific questions which actually were posed in connection with this program.

First of all, should the Federal Government be involved, and how should that involvement be structured? There is no question that the panel firmly believes that Federal involvement is appropriate. For one thing, the subject deals indirectly at least with the issues of health and environmental impact, clearly an appropriate Government domain. We are trying to reduce pollution.

It is quite clear-cut from what one can foresee over the next 15 or 20 years that the use of coal will increase and we will be burning over 1 billion tons a year in maybe another decade or so. Ninety percent of that coal use will be combustion, and of that the electric utilities will probably make up most of it.

And, finally, we should be aware of the fact that most of it will be burned in plants which already exist and, therefore, retrofittable technologies are of particular importance in this program.

Now as Government involvement goes, the Government is involved already in many ways, but here is an important one. The amount that can be spent on R&D, particularly by the electric utility industry, which is the centerpiece of this whole area, is tightly prescribed; some 50 public utility commissions and the amount available is clearly inadequate even though it is very substantial.

The panel believes that the Federal Government should make up the difference and assure that the job gets done. As to how to structure such a program, the panel, of course, was not specifically asking that question, but in the discussion it was clear that there is no reason that the panel would see to change the existing structure.

We believe that the program should be administered by DOE and constitute essentially an increase in the Clean Coal Use Program that is already in existence there. The key issue is that of policy regarding the scale of effort which is now followed by the DOE and limits the large scale projects.

We believe that the DOE staff is entirely adequate and competent to select the proper projects and to administer this program and we would recommend against any changes or special structure for a Clean Coal Use Program. I don't think it is required.

The second question is what should be the Federal financial input? The panel report cited some 13 to 15 different generic technologies which deserve pursuit and there are, of course, variants competing within each one of those. But if an estimate of cost were arrived at by assuming that each one of these areas were developed and tested at the scale which is required before a utility can take risk to put it on the line, then the test level might be in the range of something like 100 to 300 megawatts. It varies from technology to technology.

And if one were to carry out such a program over a 5-year period, then the total cost estimated by the panel was in the range of around $2.4 billion. So it is quite obvious that not anywhere all of these areas will reach that level. So the actual cost in the end will be less.

The panel felt that most of the money will and should come from the private sector, but that maybe about one-third on the average of the contribution from the Federal Government will bring the program into being. This would translate into an annual expenditure of roughly $150 million compared to the current request which I believe was $55 million for fiscal year 1986.

The panel, I should add, did not prescribe any special method of financing, but it did point to the fact that we thought that if you look at the overall R&D budget at DOE there was an imbalance in the dollars provided for clean coal technology compared to other fossil and nonfossil areas. And we believe it is not in tune with the key energy issues that we face in this country over the next 25 years. During that period we feel that the clean coal use is literally a dominant issue of technology.

Item 3, which technologies show the greatest potential? It is a very simple question to answer. The panel made a special effort to explain why no such ranking should be given or could be given. The preferred answer will be extremely site specific and there is absolutely no way to select any one preferred system.

To name just a few of the factors which will affect the choice of any given plant, it would be whether the plant is a new facility or an existing one, the size of the plant, the age or its remaining life, the type of coals available, the plant design, the space available to make additions for retrofits, and existing or expected regulations on emissions in that specific site. Any one of these will affect the choice that is the preferred technology.

Therefore, a sound program must offer choices and leave the selection up to the user. In practice I think the marketplace will make the selection by its willingness to cofund the development, and that should be the key criterion for funding.

These are all very expensive projects really and if you insist on a 50 percent or greater private sector contribution, you will assure early commercial use as soon as the demonstration is complete.

The fourth question, what scale of R&D should be supported federally? Now this relates to the key issue, and really I would say it was the only issue where there is any disagreement between the panel report and the report by the Department itself. It deals with the scale of projects.

The panel recommends that Federal support continue through the R&D and demonstration for testing at a scale until no further risks of extrapolation prevent adoption of any technology in the commercial power generation system. In other words, you have to test it so that it is afterward possible to put these systems on line with an acceptable level of risk. There is never a zero risk. In most instances we think this will mean testing at 100 megawatts or somewhat higher level depending on the technology.

Finally, the question on minimum cost sharing and what should be appropriate. The panel report specifically suggests 50 percent private cofunding to be a minimum in the program. However, the scope of the program to which this rule is applied may require careful consideration. Above all, it should apply to the larger scale testing and demonstration projects.

I have tried to answer the specific questions, and in consideration of time I will stop and answer any questions you may have.

Senator McCLURE. Thank you very much, Mr. Reichl.

Dr. Balzhiser.

STATEMENT OF DR. RICHARD BALZHISER, ELECTRIC POWER RESEARCH INSTITUTE

Mr. BALZHISER. Good morning, Mr. Chairman and members of the subcommittee. I am Richard Balzhiser of the Electric Power Research Institute.

I appreciate this opportunity to share EPRI's views regarding the clean coal technology initiative which is now before the Congress.

In my judgment, the issue before you really has three questions: Why coal; Why the Government; and How can we most effectively incorporate Government support into such a program.

Let me deal with the first question of why coal. Coal is the Nation's most abundant fossil resource. Minable deposits exist in 26 States. Virtually every State in the Union depends to some extent on coal generated electricity. Electric utilities are the largest users of domestic coal burning over 650 million tons per year or about 75 percent of the domestically produced coal.

With the long-term availability of oil and natural gas for powerplant fuels highly uncertain, new commitments to nuclear units unlikely and additional hydro unavailable on a significant scale, it seems to me that we have little choice for future supply additions in the next decade other tinan coal.

Conservation can help and renewable resources may make regionally important contributions, but neither is capable of matching the assured additions to electricity supply that can be contributed by coal. But I must point out that these expectations rely to an increasing degree on our ability to overcome coal's Achilles heal, namely, its environmental impact.

Present coal technology has served our society well providing increasingly low-cost electricity to power our economic growth through the 1960's. However, growing environmental concerns led to mandated flue gas scrubbers in the seventies that spelled the end of an era of a remarkable improvement in the performance and cost of coal fuel power.

With nuclear power emerging as a promising low-cost environmentally superior source of electricity, utilities turned to scrubbers and oil as transitional answers to the increasing vocal demands of environmental interests. Not only did both of these alternatives hit the wall in the seventies, but the most experience that the industry accumulated with scrubbers the clearer it became that there had to be a better way of going from the coal pile to the bus bar, and indeed there are.

We work with utilities, suppliers, and the Government to have aggressively taken two technologies from concept to the threshold of commercial availability in the last 10 years. These unique public/private partnerships have enabled us to proceed with the cool water 100 megawatt coal gasification combined cycle project on the Southern California Edison System and with the TVA 160 megawatt atmospheric fluidized bed plant now under construction.

These early plants are intended to confirm operational and environmental performance using representative U.S. coals, and we have every reason to believe our goals will be met in both projects.

Let me turn to the second question now: Why the Government. Electric utilities remain the most intensely regulated industry in the United States. Not only does the Federal Government control plant emissions, but it literally dictates the equipment to be used on new coal-fired plants. Other governmental agencies specify pricing, rate of return, and capital recovery methods for private utilities.

Within this highly regulated framework utility executives are expected to build and operate a reliable electricity supply infrastructure that provides essential service to individuals and industry alike. There is absolutely no incentive for a utility to assume the risk inherent with new technology. Benefits accrue to the ratepayers and management typically suffers the inevitable consequences of the learning process associated with new technology. These risks are simply too large to assume to expect individual companies to assume them.

EPRI's creation was, in part, an attempt to create a risk-sharing mechanism that would permit expedited technology development and demonstration. We have accomplished much during our 12 years, and I believe the industry, the utility industry deserves recognition for its foresight in creating the institute in 1972 well ahead of the time when OPEC brought energy to the front page.

It must also be remembered that it is Government regulation that is dictating the rapid pace at which this work must be accomplished. The threat of acid rain controls puts a technical and economic risk over 100,000 megawatts of existing coal fired capacity, which in my judgment is absolutely essential if we are to assure a reliable supply of electricity through the balance of the century.

Without a better retrofit alternative than presently available scrubbers, a significant fraction of that capacity would almost certainly be sacrificed. Retrofittable sulfur oxide and nitrogen oxide control technology is an important part of the program being proposed as the ERAB panel has indicated in the event that scientific, regulatory, or political events require the industry to use them.

More importantly, however, the clean coal program we advocate takes a more wholistic approach to both coal and the environment than any proposed to date. Advanced coal technology such as fluidized bed combustion and gasification combined cycle powerplants combine increased fuel flexibility with lowered water consumption, lessened environmental impact, and not just the air, but to the water and land as well.

Fuel costs will be reduced as utilities become less dependent on specific coals to operate their plants. By integrating pollutant removal or neutralization within the process itself, they will lessen the environmental impact of the flue gas, aqueous, and solid waste discharges without complicating the powerplant and compromising its reliability.

Let me turn then to the last of the questions, how ought this program be structured. Contrary to the views of those who believe the Government's attempts to develop and particularly demonstrate technology have been unsuccessful, EPRI's experience with Government support has generally been remarkably good.

Our two largest undertakings, the cool water and TVA projects, would not have proceeded without Government participation. The cool water plant is operating today with emissions comparable to its neighboring natural gas fired units. It would not have started up without the operating support provided by the Synthetic Fuels Corporation.

Likewise, the AFBC project at TVA would not be proceeding without the $30 million participation of the Federal Government.

These projects both have substantial utility and private sector funding as well and significant contributions from EPRI. Both represent risky, first-of-a-kind attempts to advance coal utilization technology.

Likewise, our earlier participation in the successful Exxon donor solvent pilot plant involved substantial Federal participation here through a cooperative agreement with ERDA. And at the present time we are also participating with DOE in research being conducted at the EPRI Homer City coal cleaning plant in Pennsylvania.

What these projects all have in common is Government involvement as a minority participant with the private sector assuming a lead management responsibility. I believe the same formula is appropriate for the clean coal program now being proposed by Congress.

The electric utility industry has proposed projects totally in excess of $3 billion calling for cost sharing of about 40 percent. This demonstrates a clear interest and commitment in using these technologies if they can be shown to meet performance in cost expectations. The principal beneficiaries will be the users of electricity and not the shareholders through cost-effective means of continuing to use our abundant coal resources.

We at EPRI are prepared to work with the Congress and the administration to devise means to increase the likelihood of success in this proposed program. We are prepared to contribute not only money but, more importantly we believe, our technical and management skills in mobilizing and coordinating public and private interests to the maximum benefit of all of coal's constituencies.

Thank you, Mr. Chairman.

PREPARED STATEMENT

Senator McClure. Thank you very much, Mr. Balzhiser. Your statement will be entered into the record.

[The statement follows:]

STATEMENT OF DR. RICHARD BALZHISER

I appreciate this invitation to meet with you to discuss promising clean coal technologies and opportunities for their accelerated development and application. These opportunities have significant implications for the electric utility industry and therefore are of great importance to EPRI.

The Electric Power Research Institute was established by the electric utility industry in 1972 to conduct a broad research and development program for the entire electric utility industry and its rate payers. EPRI's R&D mission is to develop new and improved technologies for electric power production, delivery and use, and to help accelerate their availability to insure an adequate supply of economic, reliable and environmentally acceptable electricity.

EPRI is supported by voluntary contributions from investor-owned, government-owned and cooperatively-owned electric utilities across the nation. During the next five years, EPRI will direct over $580 million to improving coal utilization. This commitment is based on the premise that coal utilization and environmental protection are mutually compatible and that improved technology is the key to compatibility. Answers are urgently needed for the important questions concerning coal utilization and the environment, if we are to make effective decisions concerning the stewardship of our national resources. Accordingly, EPRI and the utility industry are focusing on three fundamental issues:

- Defining what resources are at risk.
- Developing the technology necessary to control these risks.
- Determining where and when control measures can be most effective.

The scope and urgency of this effort, however exceeds the capability of the private sector alone, and will require an accelerated national effort.

Current environmental control capabilities must also be improved by reducing capital and operating costs and preserving overall plant productivity. The importance of this effort is underscored by the fact that approximately 40% of the capital investment and 30% of the total cost of power for new, coal-fired power plants are related to environmental control. This includes sulfur dioxide (SO_2) scrubbing, particulate control, solid waste disposal, water treatment and plant cooling. These controls in their current form have a major impact on plant efficiency and reliability. Closely associated with this issue is the increasing difficulty in siting new utility and other energy facilities.

Since its inception, EPRI has worked with the Department of Energy (DOE and its predecessor agencies), the Environmental Protection Agency, and other Federal agencies with energy research and development responsibilities to achieve mutual technical objectives. In the spirit of that long-standing cooperation, EPRI and others recommend an accelerated national program to better understand the environmental issues constraining the use of coal and to develop, demonstrate and promptly apply improved, clean coal technology. This effort would build on activities already underway within the Federal and private sectors. The Clean Coal Technology Initiative and the resulting November 1984 DOE solicitation for opportunities in emerging clean coal technologies is responsive to this recommendation.

The Role of Coal

Coal is by far our most abundant domestic fossil fuel resource and has been the cornerstone of the national goal to achieve increased energy self-sufficiency under each of the last four administrations. The imperative for coal has grown rapidly over this period as the reliability and security of our petroleum supply has become more uncertain and the nuclear power initiative has been increasingly delayed. Today 75% of the 900 million tons of coal produced annually in the United States provides about 60% of our electricity. This growing interdependence of coal and electricity reflects the unique opportunity that electricity provides to transform coal into a versatile, broadly available, energy form.

Despite its abundance, coal has never been the most desirable fossil fuel form. It contains less energy per unit mass than natural gas or oil, it is cumbersome to transport and it has created a variety of environmental issues. As a result environmental requirements have joined cost reduction as the primary consideration in the design and operation of coal-fired power plants and are the driving forces pushing coal utilization technology in new directions.

Conflicting perceptions about the effectiveness of clean air programs, which have already produced a 33% reduction in emissions, have driven the emission control debate for the last several years. In essence the debate has been reduced to an argument over which sources should be forced to further control SO_2 emissions, by what means, and at whose expense. With the growing understanding of the complex interaction among pollutants, the strict SO_2 focus no longer seems as relevant. Instead, the nation should be concentrating on developing an effective, sustained strategy to maintain and continue the substantial progress which has been made in all aspects of emission control. An important element is vigorous application of the new coal utilization technologies which combine emission control with the combustion or conversion process.

The utility industry has been a leader in this effort and as a result, there is a very high likelihood of using coal cleanly in every respect this century through joint private/Federal acceleration of the clean coal technology commercialization effort.

Current Limitations

Through one generating technology or another, coal must play a larger role in meeting the gnerating needs for the rest of the century and beyond. But the ways in which utilities are able to use coal will have important impacts on their ability to install needed capacity, on the price of electricity and on the environment.

Conventional pulverized coal units today are the only available technology that has been proven for the generation of large amounts of electricity. In the circumstances now facing the industry, these conventional coal units with their Federally mandated flue gas scrubbers have major disadvantages. Because these units are characterized by economies of scale, they are relatively large units requiring long construction periods and large capital investments. (A typical new 1000 MW powerplant will cost over $1.3 billion). About 40% of this investment will be for environmental control. Licensing and construction may take eight years or more.

The most technically and economically visible element of environmental control on today's pulverized coal-fired power plants is the flue gas desulfurization system or "scrubber." Wet scrubbing is a simple concept, but in practice is complex and expensive. An alkaline reagent, usually lime or limestone, is mixed with water to form a slurry and then sprayed into the flue gas produced by the coal combustion process. The sulfur oxides present in the flue gas are absorbed in the slurry, and calcium sulfite and/calcium sulfate (gypsum) precipitates out for disposal or use. Alternate, but more expensive, options can transform the absorbed sulfur oxides into sulfuric acid or elemental sulfur.

This technology has been defined by the U.S. Environmental Protection Agency (EPA) as the "Best Available Control Technology" for the required control of sulfur oxide emissions. It has been effectively required on all new pulverized coal-fired power plants since 1977. As a result, the U.S. electric utility industry is today operating 119 of these wet scrubber systems on over 50,000 MW of coal-fired boilers. Unfortunately, scrubbers have proven to be among the most costly and least reliable pieces of equipment in the utility industry.

In a new power plant, the scrubber will commonly cost $140 to $175/kW. In an application to an existing plant it typically costs 10-40% more, but this premium may be as high as 100%. High cost derives from more than design and construction. Scrubbers yield large volumes of wet waste requiring extensive land areas for ponds or landfills, for example, about one square mile a foot deep for each year of operation by a 1000 MW power plant burning 3% sulfur coal. This is a significant environmental side effect of today's flue gas desulfurization systems. Scrubbing also uses huge amounts of water (1000-3000 gal/min), and these processes still often have problems with plugging and fouling of equipment and corrosion of fans and ductwork downstream, matters that add to operating cost and reduce power plant reliability. Finally, scrubbers extract a penalty of 3-8% of plant output energy, simply to run pumps, fans, and flue gas reheat systems, and maintenance costs are two to twenty times that of the rest of the power plant.

Some years ago, Federal leadership for the development of improved flue gas cleaning systems was transferred to the DOE. This was applauded as a progressive step promoting resolution of the technical problems limiting the effectiveness of Federally mandated control technology. Unfortunately, very little Federal participation has been achieved, although many opportunities exist. The effectiveness of government participation will depend on a much more aggressive R&D policy which focues on the key problems and jointly commits to the major technology projects required for their resolution. By comparison, EPRI alone is investing annually more than four times the current DOE effort in flue gas cleaning technology.

The Need for New Technology

From the time of Thomas Edison's first electric generating station in 1880 to the 1960s, the pace of coal-fired power plant technology advancement continued at a remarkable rate. Efficiency increased eight fold while power plant size increased by a factor of 20,000 over this period. Power plant costs dropped in corresponding fashion. Over the past 20 years, however, further progress has stagnated in the face of a variety of new constraints including escalating capital cost, declining construction productivity, new environmental control requirements, declining coal quality, and licensing delays. As a result, it costs three times more today, in constant dollars, to install a kilowatt of coal-fired electric generating capacity than in 1967 and even more than in 1920. This, in turn, is reflected in rising electricity rates. In short, the fruits of technical progress achieved in the 50 years prior to 1967 have been lost in the past 17.

Based on these changing realities, only a fundamental improvement in coal-fired power plant technology can effectively respond to the growing constraints on coal-fired power generation and restore economic progress in electricity production. As a result, the electric utility industry stands today at a threshold of change in its technological base for coal-fired power generation. Successful new technology must satisfy two basic and interconnected requirements.

a. Reduced Cost and Risk. This requires modular power plants that can be rapidly constructed over a range of sizes to better match demand growth, and can utilize a wide range of coal quality in a single design.

b. Improved Environmental Control. This requires technology that can meet existing and emerging environmental requirements while minimizing the need for expensive, inefficient "band-aid" control hardware such as scrubbers.

An accelerated, two-pronged approach to achieve this transition is necessary: First, promptly transfer improved coal technology from development to application and second, extract the last measure of performance from the existing electricity generating base to span this transition period. Coping with this transition will require an immediate and intensive commitment over the next five years on the part of the utility industry, its suppliers and government if we are to assure electricity supply and control cost while protecting the environment

The urgency of this joint commitment is underscored by the challenge to the nation's electricity supply capability over the remainder of the century. For example, the electricity generating capacity currently installed or assured of construction completion will only support an average growth rate in electricity demand of less than one percent per year over the remainder of the century. By comparison, electricity demand over the turbulent past 12 years increased an average of 2.3% per year. This period saw two oil-interruptions, dramatic escalation in energy costs, resulting economic recessions, and major efforts in energy conservation.

Based on this recent experience, we can expect electricity demand to continue to pace economic growth. Satisfying even modest growth over the remainder of the century will require a balanced strategy involving additional improvements in conservation and end use management, greater productivity from existing generation capacity (reliability and life extension), plus new generation capacity. Assuming such a balanced strategy can be implemented, the nation will still require 100,000 to 200,000 MW of additional new capacity this century, essentially all of which must depend on coal. New clean coal technology now under development could reduce the cost of this capacity by 30% to 50%. Time is of the essence, however, if this improvement is to be realized in time.

A particular element at risk in this overall strategy is life extension for existing plants. Despite the problems that aging units present, utilities are often finding it less costly to refurbish existing units than replacing them with new capacity. As a result, 115,000 MW of existing capacity is expected to be more than 40 years old by the end of the century. This important generation component would be reduced drastically, however, if utilities were required to add flue gas scrubbers and other costly emissions control equipment to those units. In that event, the number of retirements would increase sharply because of the cost and the fact that in some cases the additional equipment could not be physically accommodated. This would correspondingly increase the requirement for new capacity.

By comparison, essentially no new electricity generating capacity has been committed over the last several years and very little additional is planned for commitment over the next five years. This reluctance to invest in new power plants reflects their rapidly escalating cost and the lack of risk compensating incentives for regulated utility investment. The result has been a virtual elimination of capacity additions from the industry's generation planning process for the 1990s. Unless prompt action is taken to reduce the present disincentives to capacity addition, including reducing the risks of demonstrating and introducing new, less costly and more environmentally effective technology, it is probable that inadequate electricity capacity will result this century.

Technology Options

The inefficiencies and cost of current flue gas scrubbing technology coupled with the uncertain possibility that existing plants may require retrofitting of further emission control leads to the need for new, simplified emission control options. These range from improved phsical coal cleaning, to low NO_x combustion, furnace sorbent injection and dry scrubbing. No one of these options will satisfy the widely varying conditions over the range of existing coal-fired utility and industrial power plants. As a set, however, they can substantially reduce the cost and productivity limitations of emission control today.

Selection will depend on a number of variables including control requirements, cost and functional criteria such as plant design and space limitations. This third category can be a particularly important constraint when considering retrofit to existing plants. Unlike new plants where the boiler and emission controls can be designed as an integrated unit, retrofit requires adaptation to a plant not designed for such modification. This can lead to compromise and additional expense.

The more effective approach is the use of new coal utilization technologies such as fluidized bed combustion (FBC) or gasification combined cycle (GCC). These technologies combine emission control within the combustion or conversion process. The result is both greater emission control efficiency and improved generation productivity to fundamentally resolve conflicts between energy and the environment. This underscores the value of economic and regulatory incentives that encourage prompt transition to these improved coal utilization options.

The principal appeal of these technologies is that they directly address the major factors affecting coal-fired power generation - notably, cost and emission control. Combining emission control with the combustion or conversion process is inherently less costly, less energy-intensive and more efficient than removing pollutants from the flue gas. As a result, they are a more effective use of national resources than additions of flue gas desulfurization systems to current coal-fired capacity.

Figures 1A and 1B compare the short duration and relatively limited SO_2 and NO_x control capability of retrofit control requirements with the much greater potential of these new clean coal technologies. For example, proposed acid rain control legislation that would retrofit flue gas scrubbers on up to 100,000 MW of existing, high sulfur coal-fired generating capacity would cost the nation $200 billion over the remaining life of the affected plants. A more effective alternative would be introduction of new, clean coal technologies that offer greater emission control efficiency and improved generation productivity. If the $200 billion necessary to implement the scrubber retrofit strategy were instead invested on plants using advanced coal technologies, it would provide about half of the new generating capacity the nation is likely to require over the next 30 years. Such an investment would at the same time provide superior environmental control, not only for sulfur oxides but for nitrogen oxides and solid waste as well, while also improving the productivity and cost of power generation.

The most effective national coal utilization program therefore should have four major objectives. Based on the existing development foundation, all four objectives can be achieved within the next five years. It will require, however, a major, joint private/Federal effort to share the costs and risks, particularly at the technology demonstration scale.

a. Establish a sounder scientific base to guide the nation on the needs and appropriate timing of emission controls.

b. Demonstrate the array of potentially more effective retrofittable emission control alternatives to current flue gas desulfurization (scrubber) technology.

c. Demonstrate the advanced coal utilization technologies, e.g. atmospheric fluidized bed combustion, pressurized fluidized bed combustion, and gasification combined cycle, over a sufficient range of conditions to establish performance, cost, and reliability.

d. Establish incentives to encourage the prompt commercial implementation of these technologies.

In order to meet these objectives, the utility industry, its suppliers, and EPRI, have therefore jointly proposed $2 billion in joint demonstration projects to DOE. Only 38% of the required funding would be Federally provided. These are in response to the November, 1984 DOE program announcement on emerging clean coal technologies.

These proposed projects are remarkably consistent in scope and cost estimate with the independent recommendations of the

DOE's Energy Research Advisory Board (ERAB) Panel on Clean Coal Use Technologies which encourages expanded DOE participation in coal technology development and demonstration. These projects reflect both the broad scope of opportunities to expand improved coal utilization and the major investment which the utility industry and its suppliers are prepared to make in developing and demonstrating these improvements. Table 1 and the Attachment describe these opportunities in more detail.

The EPRI Contribution

For EPRI this means accelerating our already substantial R&D effort in environmental assessment, clean coal technology, and as a management focus for utility coal utilization projects. For example, EPRI funding for clean coal resarch development and demonstration during the period 1985-1989 will encompass the following effort:

1985-1989 EPRI

Expenditures	(Million$)
Environmental Assessment	78
Power Plant Performance Improvement	41
Coal Quality	43
Emission & Effluent Treatment	129
Fluidized Bed Combustion	127
Coal Conversion	164
	582

This represents one-third of the Institute's planned budget over the next five years and is in addition to the over $500 million already spent by EPRI on these R&D programs. The breadth of this program reflects the great diversity among utilities in their generating mix, environmental requirements, fuel availability and cost. No single technology can satisfy all situations. A flexible selection of clean coal options is essential to a healthy and responsive electric utility industry in the 1990s and beyond. Over half this total will be directed to technology demonstration projects.

EPRI has been pleased to be both a partner and a catalyst over the past decade to accelerate the commercialization of clean coal technology. An important question which must be resolved before large scale application of these options can proceed is proof of their long term reliability under utility operating conditions. The EPRI program, therefore, stesses the demonstration of these options at sufficiently large scale to verify their commercial reliability. In the case of the atmospheric fluidized bed combustion and coal gasification, joint private/Federal efforts with EPRI have culminated in the necessary commercial demonstrations as indicated by the Cool Water gasification combined cycle project and the three proposed AFBC demonstrations with TVA, Duke Power and the State of Kentucky; Northern States Power; and Colorado-Ute Rural Electric Cooperative. It is the Federal participation with the private sector during development and prototype testing which has helped provide the confidence for these demonstrations to proceed under private sector initiative.

In addition, sustained Federal participation in both Cool Water and the TVA AFBC demonstration has been crucial to the prompt implementation of these pioneer clean coal utilization projects.

It is Federal participation as a risk sharing investor in demonstrations initiated and managed by the private sector which has been the key to the successful government/industry partnership in these projects. The success of this approach provides a confident prototype for the necessary continued joint Federal/industry effort in clean coal technology commercialization.

The Clean Coal Technology Reserve provides a mechanism to extend this Federal participation to other deserving clean coal technologies. In its absence opportunities on coal cleaning, pressurized fluidized bed combustion and other combustion improvements as well as environmental control technology will be constrained from application. All of these opportunities can have a fundamental impact on the quantity and quality of coal utilization and electric power generation over the coming years.

Issues Facing the Private Sector

The role of the private sector in carrying out this R&D must consider the unique aspects of the primary using industry--the electric utilities and their technology suppliers:

> The electric utility industry is a financially stressed, regulated industry. Rates of return are regulated and therefore, profits do not necessarily reflect risks to investors.
>
> Major financial risk is associated with incorporation of innovative technology into an established and complex electric power system that must remain economical and reliable. The task of ensuring that planned capacity additions are sufficient to meet supply has tranditionally been the province of utility management, but the disincentives to investment have forced management to place first priority on delaying commitments to new plant.
>
> Utility supplier firms are also not assured of a sufficient return on R&D investment to maintain technical leadership in the current limited domestic market situation. R&D is only the first step in a project which, if successful, will require time and order-of-magnitude greater expenditures for engineering, manufacturing, marketing and capital before a profit is realized. The possibility of changes in government policies over the period further amplifies the risk.
>
> Energy tax credits for new technology, permitted by other industries, are not available to electric utilities. This is at a time when the utility

industry must assume a growing leadership for the development of its essential technological improvements. Contrary to popular conception, the utility industry is one of the most technologically intensive and it is technology which must solve the difficult demands of the future.

The producers and users of coal represent highly diversified and decentralized industries. This reality presents a special problem in both the range of technologies necessary to meet the diverse needs and the ability to focus sufficient resources. EPRI has provided a unique capability for a large fraction of the utility industry but it is unable to satisfy the industry's needs under the present regulatory and investment environment.

Financial problems facing the industry and its inability to generate capital funds for improvement or expansion makes additional R&D funding even more difficult. As a result, EPRI is able to fund less than half the scope of its program at a time when the needs are increasing dramatically.

During this period of fundamental change in power generation technology, full recovery of all reasonable R&D expenditures should be allowed.

Foreign countries, where a more cooperative partnership between government and industry exists, are aggressively moving to assume leadership in the development and commercialization of improved coal utilization technology.

Loss of technological leadership may force the utility industry and its suppliers to depend on these foreign sources. Other, far-reaching implications for supplier confidence and the U.S. international position are self-evident in such foreign dependence.

Taken together these circumstances continue to pose a problem of major porportions--a problem which should be of national concern. This will only be resolved through a national effort to reduce the risks of a rapid massive technical revitalization in coal technology for power production. Concern for the future adequacy of electricity supply must also be reflected in the regulatory process where the risks of new capacity should be compensated by opportunities for the investor to benefit from successful risk taking.

The issue becomes especially critical when it is necessary to build large scale demonstrations. These are essential elements in proving out the reliability, economics and technical capability of new technologies. It is also often necessary to gain experience with several such large scale projects before the risks are reduced to the level of broad commercial acceptability, especially in the utility industry where reliability of service must take first priority. Thus, there are a number of programs in coal utilization related technology for which the funding mechanism to achieve prompt development and application is not evident. These are necessary to resolve the issues constraining coal use today and for the foreseeable future.

The rate of market penetration of these new coal utilization options would also be enhanced by the development of regulatory and economic incentives which encourage introduction of innovative technology. Particularly important is the development of a quantitative basis for environmental regulation, plus incentives to offset any operational uncertainties associated with new power generation technology. These economic incentives could include making exempt, pollution control bonds available for any clean coal utilization technology. Other economic instruments encouraging the use of such processes might include accelerated depreciation treatment and enhanced tax credits or bond guarantees.

The Federal Role

The Federal government can play an important role in fostering the early introduction of new technologies that can be applied to meet the needs of clean, coal-fired, power generation this century. Unfortunately, Federal programs are not giving sufficient emphasis to that objective. Indeed, the trend in Federal spending has been toward long range R&D projects whose potential benefits lie in the more distant future while turning away from the early commercialization of promising technologies.

The best criterion for the distribution of Federal R&D funds will be the "Marketplace"; i.e., the willingness for private sector cofunding, particularly cofunding by the technology user. The Appendix discusses a number of these "marketplace" opportunities which are proposed by the private sector. In this time of budget stringency, every expenditure should be put to a severe test of cost effectiveness. All promising areas cannot be pursued and priorities must be set. In this context the private sector should also be more involved in the priority-setting process.

The total amount budgeted by DOE for FY 1986 in the field of Clean Use of Coal, is about $57 million. This is about half the corresponding commitment by EPRI alone. This continuing budget decline is inconsistent with the needs which the increasing use of coal implies. Within the Clean Use of Coal area, the overall DOE program is only able to touch on most relevant technical areas. Most critically, the budget does not allow DOE to aid in the transfer of the new technologies to the private sector nor to assure their prompt commercialization. Specifically, as recommended by DOE's ERAB Clean Coal Use Technology Panel, the Federal government should participate in the needed demonstrations which are characteristic for utility acceptance of new technology and which are necessary to respond to government policies and regulations. This recommendation also reflects the diversified and decentralized nature of the coal using and producing industries and the resulting range of technology options required plus the limitations in focusing sufficient private sector resources.

An example of the impact of the current lack of Federal participation in private sector technology demonstration and commercialization initiatives is particularly evident in the Pressurized Fluidized Bed Combustion development program. Major progress has been made over the past several years in converting this techology from an engineering possibility to an important electric power producing technology having the lowest busbar energy cost potential of any near term coal utilization option. The effective cancellation of Federal support on the brink of successful proof of concept is indeed "seizing defeat from the jaws of victory."

The Federal government has a unique opportunity to work closely with the private sector to resolve the various constraints, often resulting from other government actions, on the nation's ability to make use of coal. Obviously, careful selection of projects and extensive private cofunding are prerequisites. The Federal role should be patterned after the successful experience in the Cool Water and TVA AFBC demonstrations where its participation was as a risk sharing investor in privately initiated and managed demonstrations with a clear commercialization objective.

This approach would also improve stability of support and purpose for cofunded projects. A prime concern of private sector R&D management is that program direction and budget, once adopted, will not be changed arbitrarily. This is particularly important to multi-year demonstration projects where change in direction is costly and wasteful. This improved stability would facilitate commercialization of improved coal technology.

Conclusions

The nation stands at a threshold of fundamental change in its technological base for coal-fired power generation. The present commercial technology is nearing the end of its development potential and is increasingly hard pressed to respond to the rapidly changing requirements being placed on the industry. An accelerated, two-pronged approach is necessary: first, promptly transfer improved coal technology from development to application and second, extract the last measure of performance from the existing generation base necessary to span this transition period. Coping with this transition will require an intensive, joint commitment over the next 5 to 10 years on the part of industry and government.

The actions of the Federal government in direct support of energy related research, development and demonstration, and in the form of incentives, have a profound effect on the private sector's ability to develop and utilize clean coal technology. Federal programs need to consider the underlying circumstances affecting private industry and the importance of electric energy and coal to the nation's economy and security needs. The rate of commercialization and use of improved technology also depends on legislative and regulatory incentives. Too often our dependence on the adversarial approach makes the uncertainties and conflicts restricting coal use more severe and disruptive than necessary and restricts the introduction of technological improvements.

There is no shortage of opportunities to improve the efficiency, reliability and environmental performance of emerging clean coal technologies. We are learning how to produce power cleanly from coal in a variety of forms meeting the demands of the diverse national energy system. The question is whether we can reduce this knowledge to practice in a period when both regulatory uncertainty and financial disincentives constrain the effort.

The future is now, and success depends on prompt aggressive action by government and industry. The problem affects all phases of the development cycle, but is greatest in the financially-intensive large pilot and demonstration steps necessary for commercial confidence. The Clean Coal Technology Reserve to provide federal participation in private sector demonstration initiatives can substantially enhance the nation's ability to commercialize the many developments in clean coal technology. EPRI is prepared to do its part in formulating and implementing these efforts, including the investment of $580 million over the next five years alone.

Table 1

PROPOSED CLEAN COAL DEMONSTRATIONS WITH EPRI PARTICIPATION
(Million $)

Technology Demonstration	Total Funding	Recommended Federal Participation
A. Coal Quality		
1. Intensive sulfur and ash separation	40	20
2. Efficient Fine Coal Cleaning & Recovery - EPRI CCTF	60	15
3. K - Fuel Cleaning and Pelletizing	39	10
4. Biological Coal Desulfurization	20	10
5. Automated Coal Cleaning Plant Process Control	20	10

Technology Demonstration	Total Funding	Recommended Federal Participation
B. Combustion Technology		
1. Coal-Water Slurry	50	20
2. Furnace Sorbent Injection for SO_2 Control (LIMB)	60	25
3. Low NO_x Combustion	25	10
4. Combustion Diagnostics and Coal Variability Impact Reduction	5	25
C. Flue Gas Cleanup		
1. Southern Company/Chiyoda 121 Process	40	10
2. EPRI High Sulfur Coal Test Center	35	5
3. Regenerable NO_x/SO_x Control	27	13
4. Baghouse Sorbent Injection for SO_2 Control	25	5
D. Pressurized Fluidized Bed Combustion		
1. Turbocharged PFB Boiler	90	45
2. PFB Combined Cycle	120	60
3. Circulating PFB Prototype	70	40
E. Atmospheric Fluidized Bed Combuston		
1. NSP Conversion	56	5
2. Colorado-Ute Circulating AFB	117	30
3. 100 MW Coal Refuse Combustor	125	30

Technology Demonstration	Total Funding	Recommended Federal Participation
F. Integrated Gasification Combined Cycle		
1. Slagging Gasifier & Advanced Turbine IGCC	450	180
2. IGCC Methanol & Electricity Production	40	20
G. Fuel Cell - Coal Gasification		
1. Phosphoric Acid Fuel Cell	50	20
2. Carbonate Fuel Cell	150	90
H. Environmental Assessment		
1. Impact Mitigation	20	5
2. Atmospheric Tracer Demonstration	200	40
Total	1979	743 (38%)

Figure 1A

ANNUAL UTILITY SO_2 EMISSIONS
3% Peak Growth

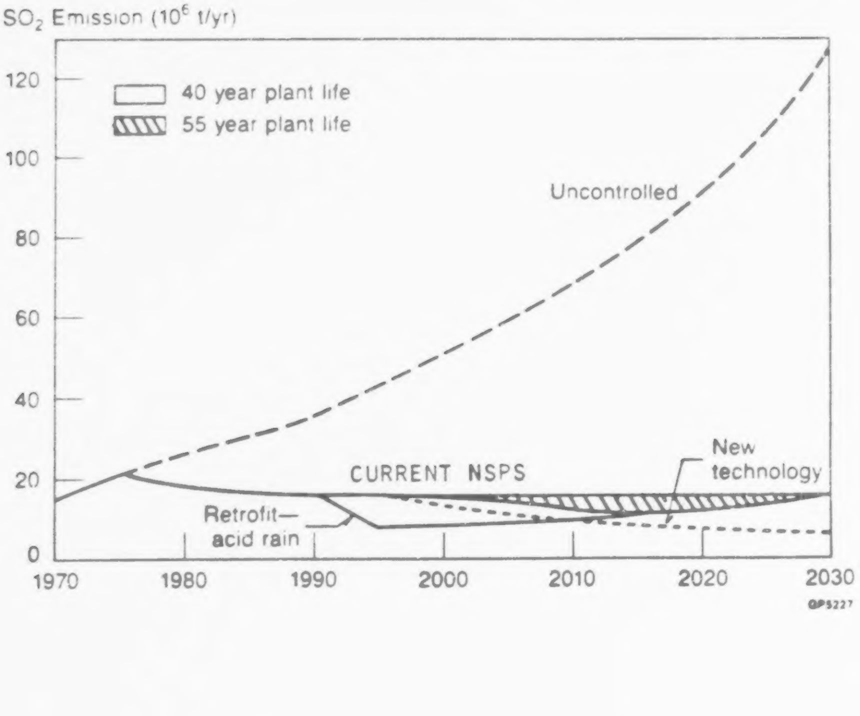
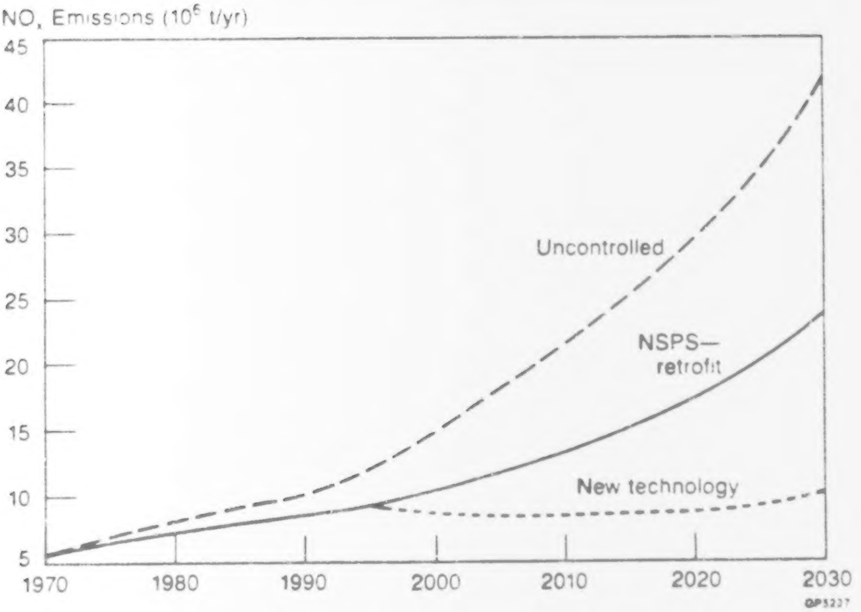


Figure 1B

ANNUAL UTILITY NO_x EMISSIONS
40-Yr Plant Life; 3% Peak Growth



STATEMENT OF THOMAS R. KUHN, EXECUTIVE VICE PRESIDENT, THE EDISON ELECTRIC INSTITUTE

Senator McClure. Mr. Kuhn.

Mr. Kuhn. Mr. Chairman, Senators, I appreciate the opportunity to testify today on behalf of the Edison Electric Institute.

The Edison Electric Institute is the association of electric companies. Its members serve 96 percent of customers served by the investor-owned segment of the industry and they generate 75 percent of all electricity in the country and service 73 percent of all ultimate customers in the Nation.

This is my first testimony since assuming my new position as EEI. I wanted it to be in a very important subject and I believe the clean coal program to be just that.

EEI enthusiastically supports the clean coal program. The level of our commitment is reflected by over 30 varied responses by our member companies to the Department of Energy's solicitation. We look to the Federal Government to help assure that the substantial public benefits to be derived from these technologies are realized.

I would like to talk first about the need for electric generating capacity. Although forecasts vary, there is general agreement that new electrical generating capacity is needed to support economic growth, to provide for aging and retirement of plants, and to reduce dependence on oil and gas.

Approximately 131 gigawatts of generating capacity are planned to come on line from 1984 to 1993. Nonetheless, sometime in the early 1990's peak electricity demand is expected to exceed installed capacity. Because of the very long lead time involved in bringing new capacity on line, the difficult planning decisions for adequate power supplies in the 1990's must be made soon. We are now in a slower growth rising cost planning environment.

Any deviation between increments of demand growth and increments of supply growth can be a source of serious economic and regulatory problems for the company involved. Given this need for additional generating capacity and their difficult planning horizon, clean coal technologies offer several very important benefits.

They are characterized by modular construction techniques that are well suited to these incremental and uncertain growth needs. They require shorter construction lead times which should help hold down costs and contribute substantially to planning accuracy. They are also improved efficiencies and less disruptive and costly repair and maintenance.

Clean coal technologies can also contribute significantly to environmental quality. There are serious problems associated with current scrubbers and flue gas desulfurization technologies. Flue gas desulferization adds an estimated 34 percent to the cost of new coal fired capacity.

Maintenance costs for fuel gas desulferization systems are 2 to 20 times the maintenance cost to the rest of the powerplant, and the unreliability of fluidized gas desulferization systems causes increased costs.

Thorough demonstration of a full range of clean coal technologies offers the opportunity to determine the best means of environmental control based upon the technology that performs the best.

Table 1 on page 6 of my statement indicates the emissions control potential associated with these technologies and they are very substantial.

Cost-based performance selection can provide the most effective and least expensive environmental benefits to the American people. Clean coal technologies will also benefit the important national goal of expanding the use of our most abundant fossil fuel. The market for various types of coal will undoubtedly be increased. If it can be used for environmental standards or other factors it may otherwise preclude its use.

Utilities are anxious to achieve the many benefits these clean coal technologies have to offer, but we cannot do it alone. State regulatory agencies have limited abilities to approve utility expenses that are incurred beyond the narrow definition of producing utility needs and utility services.

As noted by Jack Ferguson, chief operating officer of the Virginia Power Co., without Federal support we could easily have a situation in which utilities will not embrace and their regulators will not permit new technology unless it is demonstrated by another company. No one wants to be the first and assume all the risk.

Well, this may be a prudent approach for each utility and its regulators, but it will not be in the best interests of the Nation. As an incremental partner with the utilities and private industry, the Federal Government can assure that this course of action does not occur.

In preparation for this hearing the chairman posed a series of questions relating to the appropriate Federal role, and I would like to respond to those at this time.

We believe that clean coal technologies are clearly in the national interest and Government participation can help overcome technical, financial, and institutional barriers to their commercialization. Federal involvement should be structured along the lines of an investment banker where funds are advanced to specific parties for demonstration of promising technologies.

For those projects sufficiently mature it may be the best public policy to provide the necessary increment of funding so that they can be demonstrated as rapidly as possible. For less mature technologies the best approach may be a competitive process wherein technologies and their proposers compete with one another for Federal assistance.

The utility industry applauded the Congress last October when you enacted a $750 million clean coal technology reserve, and we would like to see an aggressive program funded over the next 5 years.

We also strongly support multiple year funding to ensure the continuity of the program and to assure that projects once begun can be completed.

Regarding which technologies show the greatest technical and market penetration potential for reducing emissions from coal over the next 15 years, the technology applicant is site specific and, hence, both the technical and market penetration is going to be utility or industrial site specific.

However, there are a variety of general parameters and conditions that can be addressed and these are outlined on page 11 of my written testimony.

One question asked at what scale should the Federal Government conclude its involvement in each technology, and in response we concur with the conclusion reached by the Energy Research Advisory Board earlier this month that in most instances the current policy of abandoning development after proof of concept has been established will result in such that, abandonment. It is important that Federal support remain with these technologies through demonstration on a commercial scale.

Finally, we believe the utility responses outlined in the DOE report to Congress on May 1 illustrate very appropriate mixes of public/private support. Specifically there are 28 electric utility proposals in which the dollar needs have been spelled out in the information proposal.

On an aggregated basis the cofunding levels are 58 percent of the funds from our industry and 42 percent from the Federal Government. Our industry is prepared to initiate projects worth approximately $3.6 billion with an equity offering of approximately $2.1 billion.

Also, there are some instances where the utility has offered existing powerplants equipment and engineering services for which the value is not shown.

In conclusion, the advantages of clean coal are clearly substantial. Some of these advantages, such as modular construction are reflected in the investment decision process and will be captured by electric utilities and their customers.

Other advantages, particularly the increased use of valuable coal resources and the environmental benefits accruing from the removal of sulfur dioxides, nitrogen oxides, and particulates reflect larger public concerns. It is the responsibility of the Government to ensure achievement of these benefits.

To do that the Government must focus on two issues. First, it must act now. The decision window for planning facilities, which will be needed in the 1990's is now. Without prompt action, the probability of additional conventional facilities is greater. Without prompt action, the United States will be handicapped in world technology competition.

Second, the Government must recognize the role it can constructively play to move technology from R&D to commercialization. The primary role is with the public sector, but when the public benefits are large and not fully reflected in the private investment criteria, then it is the proper function of the Government to take action to capture those benefits for the public good.

Mr. Chairman, I will be happy after the panel concludes to respond to any additional questions which you may have.

PREPARED STATEMENT

Senator McCLURE. Thank you very much. Your statement will be placed in the record at this point.

[The statement follows:]

STATEMENT OF THOMAS R. KUHN

On behalf of the Edison Electric Institute (EEI), I welcome the opportunity to discuss the potential role of clean coal technologies as a supply option to provide for the continually growing demand for electricity. EEI is the association of electric companies. Its members serve 96 percent of all customers served by the investor-owned segment of the industry. They generate approximately 75 percent of all electricity in the country and service 73 percent of all ultimate customers in the nation. We appreciate the willingness of the Committee to conduct this timely and important hearing.

SUMMARY

The evolution of the forces affecting utility planning has made the characteristics of the alternative clean coal technologies of great interest. Current circumstances, however, may prevent full utilization of the benefits which these technologies offer.

During my testimony today I will describe the need for new capacity, the resource options being implemented to balance supply and demand, the investment planning considerations, and other technology options available to electric utilities. The advantages of using clean coal technologies to advance the list of generating options for providing power in the future include:

- Environmental benefits of reduced SO_x, NO_x and particulate removal on a cost-effective basis
- Modular Construction
- Wider Fuel Selection
- Improved Efficiency and Availability
- Greater Coal Utilization

This program provides a unique opportunity for technology to drive regulation based upon marketplace rather than regulatory criteria. As an incremental investment banker in these projects, the federal government has a unique opportunity to reduce the risk of technology demonstrations.

My response to the Chairman's questions is under the heading, "The Appropriate Role of the Federal Government" beginning on page 9.

NEED FOR NEW CAPACITY

The past 15 years have been tumultuous ones for energy and electricity. Twice, oil imports were curtailed--first, by the embargoes and second, by the Iranian revolution. Also, we should not forget that during the mid-1970's natural gas curtailments led to unemployment. The promise of nuclear power has been tarnished by well-publicized problems affecting some plants. And, of course we all know what happened to prices of all forms of energy. These events reduced economic growth, contributed to the changing structure of the economy, and affected our personal behavior and attitudes.

Now, because we appear to be in a period of energy stability, there is a danger of complacency. Oil, natural gas, and coal supplies are abundant and market prices soft. For most electric utilities, construction programs are coming to an end. In addition, new electricity supply sources and demand side management are growing. It is unlikely that we will return to former use patterns and high consumption growth.

However, this appearance of stability offers little solace to electric utility planners. Because more moderate growth continues and because construction leadtimes in this industry are so long, difficult planning decisions for adequate power supplies in the 1990's must be made soon. New capacity is needed to support economic growth, to provide for retirement of plants, and to reduce dependence on oil and gas.

Virtually all forecasters expect continued growth in electricity demand. Most long-run forecasts for electricity consumption growth fall in a range of 2.0 to 4.0 percent per year. The electric utility industry is planning for growth in consumption of 2.7 percent and growth in peak demand of 2.5 percent over the next decade. This implies a 30 percent increase in consumption over that period. These growth rates, although low by long-run historical standards, represent a continuation of the relative growth trends of energy and electricity. Since the oil embargo, annual total energy use has actually declined while electricity sales have risen 34 percent over this 12 year period.

The fraction of energy use accounted for by electricity will continue to grow. In 1950 electricity accounted for 15 percent of total energy use. By 1960 the share was 19 percent. As we reached 1970 and 1980 it rose to 24 percent and 33 percent respectively. The share is expected to rise to over 40 percent in the 1990's. Coal's contribution to electricity production is also expected to increase.

As plants grow older, just like any industrial facility, they must be replaced. With fewer new plants coming on line, the average age of facilities in place will be rising throughout the balance of the 1980's. While the effects of aging can be mitigated by appropriate investments and plant-life can be extended in some cases, the plants must ultimately be replaced.

In some cases new capacity is also needed in order to reduce dependence on high-cost oil and gas, especially imported oil. Since the 1973 embargo, electric utilities have reduced oil consumption by over 50 percent and gas consumption by 20 percent. Most energy analysts agree that utilities should continue to work toward becoming less dependent on these high-cost fuels.

Not only is there a consensus that new capacity is needed, there is also wide agreement about when it will be needed. Approximately 131 gigawatts (GW) of generating capacity are planned to come on line from 1984 to 1993. This is equivalent to approximately one new large plant each and every month for the next ten years. Even with this expansion program, sometime in the early 1990's peak electricity demand is expected to exceed installed capacity.

We concur with the conclusions drawn by the Department of Energy in publication DOE/IE0003, Staff Report Power Supply and Demand for the Contiguous United States 1984-1993. This publication states that there is "potential for inadequate power supply in some regions" during the 1991-93 period even assuming all planned capacity is brought on-line as scheduled.

Without question, uncertainties surround all of the factors affecting the need for new capacity. Yet, projecting a plausible range of very modest growth rates and projecting a minimum level of replacement of aging and high-cost facilities, some new capacity above and beyond what is already planned will be required in the 1990 to 1995 timeframe. There is a continuing need for new generating plants and the critical planning focus is now on the early 1990's.

Utility Investment Planning Considerations

The economic and regulatory environment in which utilities operate affect the choice of resource options which will be selected to meet this need for new capacity. Conditions today favor selection of technologies with certain characteristics.

Expectations are for electricity sales to grow near or slightly below the growth of the economy. Although some years will exhibit strong growth (for example, sales were up 5.6 percent in 1984), new capacity will need to be added at a slower rate than in the past. For many utilities, increments of new demand are smaller. The first implication is that needed increments of supply are smaller, as well. A second implication is that a planning error on the high side is not quickly corrected by high growth. A given increase in supply takes longer to be absorbed by growing demand than in the past. Nor can a planning error on the low side be quickly corrected. Consequently, increments in supply should closely match increments in demand.

The cost characteristics of generating electricity today reinforce this point. Previously, the addition of a new generating plant actually lowered the unit cost of electricity. Productivity improvements and learning curve effects made economics of scale the rule. Building ahead of demand actually lowered costs. The situation is now reversed. The next kilowatt is more expensive than the last and cost recovery has become contentious. Any deviation between increments of demand growth and increments of supply growth can be a source of economic and regulatory problems for the company involved.

Financial exposure when adding new capacity is now a daunting consideration. In some cases, the cost of adding a baseload generating plant can exceed the net worth of a company. Frequently construction is a threat to the financial standing of a company. Company expenditures rise, costs must be carried until the time the plant goes into service, and cost recovery with a competitive return is not assured. Financial incentives are to forego construction if at all possible. Electricity sales may be slowed by escalation in world oil prices. Changed standards for environmental controls and revised regulatory treatment pose potential financial threats against the earnings of a utility. Along with reduced sales, these factors may result in earnings levels which can not support technology commercialization. Commercialization of a new technology is limited by these financial factors and the uncertain treatment of the financial risk by public utility commissions.

Finally, the real crux of the planning problem that can cause a mismatch of supply and demand is the lead time necessary to respond to uncertain forecasts. Uncertainty is inescapable. But, the lead time problem is controllable. Many of the problems of the industry would be greatly mitigated by shortening the time from the decision to build a plant to commercial operation. Existing short lead time technologies can be selected. Today such technologies are limited to high cost oil and gas turbines. Because of the incentives not to build new plants, there is a danger that this choice will be made by default to satisfy the demands of the 1990's. New clean coal technologies may offer an opportunity for reduced construction lead time.

In summary, we are now in a slower growth, rising cost planning environment. The strategic implications of this are:

(1) to build smaller scale plants relative to the past; (2) to consider renovating existing facilities; (3) to add capacity which better tracks demand growth and fluctuations; and (4) to select technologies with a higher ratio of variable to total costs.

The Technology Options

Utilities have a number of supply options with which to meet growing demand. Current technologies can meet future demand. But, current planning considerations compel a search for new options. A quick review of conventional choices illustrates the point.

Because of a decade's accumulation of regulatory, management, and public decisions, the promise of nuclear power is now eclipsed for any utility needing additional capacity before 2000. Under present regulatory and institutional arrangements, American electric utilities are not evaluating ordering nuclear plants. The cost and risks of nuclear development in the United States presently tend to price it out of the current market.

Conventional coal technology, although capable of filling the need, comes with its own set of problems. Coal plants can satisfy all existing and proposed environmental regulations; but, the cost is high. Currently, 34 percent of the physical cost of a plant is for environmental control. Also, economies of scale make an efficiently sized plant too large for the demand increments of many utility systems. Finally, the conventional method of burning pulverized coal is technologically mature. There have been no significant improvements in heat rate (coal burned per kilowatthour produced) in many years.

Other options are becoming a part of utility resource plans. Utilities are buying power from third-party producers (cogeneration and small power production). Utilities are also actively pursuing other non-conventional generating technologies such as low-head hydro, wind, geothermal, biomass, solar thermal, photovoltaics, and fuel cells. The costs and technological risks associated with these technologies place limits on their development over the next decade.

Although the focus today is on generating capacity, we should also note that utilities are pursuing demand-side management. These techniques can hopefully give us some control over the timing of capacity needs and modify demand to allow efficient use of capacity that is in place.

THE BENEFITS OF CLEAN COAL TECHNOLOGIES

There are a variety of technical benefits to clean coal technologies including modular construction, short construction lead times, environmental enhancements, wider coal selection, and improved efficiency in the conversion of raw BTU's to electricity which address the challenges described above. All of these are important national benefits also.

Environmental Benefits

Environmental quality is a public benefit that has been a goal of governing policy for years. The inherent characteristics of clean coal technologies lead us to believe that the environmental benefits will be significant. Clean Coal technologies appear to reduce emissions levels when compared with existing technologies. Table 1 below indicates the emissions control potential associated with these technologies

TABLE 1

EMISSIONS CONTROL POTENTIAL

Technology	SO_x (% removal)	NO_x ($lb/10^6 Btu$)	Particulate ($lb/10^6 Btu$)
Conv PC/FGD* 1	90	0.5-0.6	0.03
AFBC 2	90-95	0.2	0.01
Adv PC/FGD 3	90-95	0.2-0.3	0.01
PFBC 4	90-95	0.1	0.01
GCC 5	90-99	0.1-0.3	0.003
Fuel Cell GCC	99+	0.003	nil
Slagging Combustor 6	90-95	0.1	0.01

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* New Source Performance Standards

1 Conventional Pulverized Coal with Flue Gas Desulfurization (FGD)

2 Atmospheric Fluidized Bed Combustion

3 Advanced Pulverized Coal/FGD

4 Pressurized Fluidized Bed Combustion

5 Gasification Combined Cycle (GCC)

6 Limestone injected with Staged Combustion/Baghouse or ESP

For varying technologies, these benefits may be realized either on new generating capacity, or through the retrofit of existing sources to meet demands for reducing emissions from existing coal-burning power plants.

All of these offer significant advances over current technologies. Of the advanced technologies, performance data is available only on the gasification combined cycle system now being demonstrated in California. After 10 months of operation, the SO_x and NO_x emissions are well within the design standards of the plant and are significantly lower than existing coal-fired plants with flue gas desulfurization systems. While this is only one plant relying primarily on one type of coal, we believe it offers significant insights into the potential of these technologies in both new and retrofit situations to utilize all qualities of coal in environmentally acceptable ways. Because several technologies appear to offer similar reductions in emissions, all of these technologies need widespread demonstration to enable our industry to adequately evaluate the most cost-effective technology.

Current scrubbers and Flue Gas Desulfurization (FGD) technologies represent economic costs to our industry. EEI's Construction Committee has estimated that FGD adds 34 percent to the cost of new coal-fired power plants. FGD systems are complex chemical engineering facilities that are difficult to apply to existing facilities. According to EPRI calculations, maintenance costs for FGD systems are two to twenty times the maintenance costs for the rest of the power plant. Difficulties with FGD systems have reduced the availability of coal-fired power plants, thereby adding to utilities costs. Clean coal technology demonstrations, including less costly and more reliable FGD systems, offer an opportunity for utilities to carefully evaluate the effectiveness of new technologies in meeting national environmental goals.

Technology Driving Regulation

An important element of the federal role is to assure that technology drives regulation in industries where that is appropriate. I have noted above the high cost and unreliable nature of current flue gas desulfurization systems. It would be indeed unfortunate if that system were to be the only technology choice for burning coal in an environmentally acceptable manner. We believe that the thorough demonstration of these various other high-technologies offers us a potential to demonstrate what is in fact the best means for environmental control based upon the technology that performs the best. We believe that cost-based performance and selection, rather than a regulatory-imposed selection, can provide the most cost-effective benefits to the American people. Technology selection would apply to our industry's need at a plant to be retrofitted or a new one.

Modular Construction

New technologies are characterized by modular construction techniques. This results in fabrication of the system components off-site and transportation to the plant location by truck, barge, or rail. Because modular parts are utilized, construction of the parts at different sites is possible, thereby increasing the competition from vendors in the construction process. Modular construction may also result in parts of a system being brought on line at different times to meet elements of growing load demand. For example, a turbine might be brought on line fueled by oil or gas as the first element of a combined-cycle plant where the turbine would use fuel produced by the plant after its construction. In this way, modular construction is able to assist in meeting rapid growths in electric demand.

One particular advantage of modular construction is that rapid assembly is possible. To date, the Cool Water Gasification Combined Cycle Plant in California is the most prominent example of modular construction. Due to its modularity, it was constructed in 28.5 months from ground-breaking to the time of operation. This construction time of under 2.5 years, is about one-third that of a conventional coal-fired generating station. Shorter construction times make it possible for utilities to respond more precisely to changes in demand thereby reducing construction costs as well as financial risks. In the case of Cool Water, the actual cost was $31 million below estimated costs. Modular construction would result in power stations having an appearance more like a chemical plant, and like chemical plants, available in different sizes.

Wider Fuel Selection

Today utilities frequently design a boiler to burn a coal with specific qualities. The entire plant is designed around parameters of the coal such as heating value, ash, sulfur, and trace metals contents. Clean Coal technologies, particularly gasification combined cycle and fluidized bed systems appear to offer the potential to use a broader range of coals. They would permit wider competition in the coal market to serve utilities and industrial customers. The entire coal market would potentially be increased because coal could be used where environmental standards may preclude it.

Improved Efficiency and Availability

The technology of burning pulverized coal has been in existence, essentially unchanged, for about the last 50 years. Improved thermodynamics in the conversion process of coal to electricity assist in raising generating station efficiency and lowering electricity cost. New technologies can become the basis of improved efficiences because of the various means that offer enhanced thermodynamics.

Similarly, because these plants are modular and may be built in series, repairs and maintenance of a system component may not shut the entire plant down as it is more likely to today. Instead, it is possible that throughputs of a production stream can be increased to compensate for a shut-down item resulting in power production remaining at the same level. This will lessen the risk that a single plant component would be able to shut down a single unit or plant. Through these techniques then, the availability or time the plant is producing power, can be increased which reduces the amount of capacity needed to meet electrical load. Overall, this has the potential of reducing financing costs for plants not used regularly.

Regulatory Agency Limitations

Federal Energy Regulatory Commissioner Charles G. Stalon has noted that state regulatory agencies have limited abilities to approve utility expenses that are incurred beyond the narrow definition of producing utility services. He concluded that the processes of regulatory agencies are not designed to make good decisions on research funding.

Current regulatory policies for the most part impede the recovery of costs associated with the commercialization of clean coal technologies. This requires utility companies to shoulder significant financial burdens.

The Chief Operating Officer of Virginia Power Company, Jack H. Ferguson, observed in February that, "Without Federal support we could easily have a situation in which utilities will not embrace, and their regulators will not permit, new technology until it is demonstrated by another company. Everyone could be waiting for someone else to take the hazardous trek across the desert in search of the fertile lands beyond. That policy could reflect the observation that it is often not the pioneers but the followers who gain the greatest benefits with the least cost. While this may be a prudent approach for each utility and its regulators, it will not be in the best interest of the nation."

As an incremental partner with utilities and private industry, the Federal Government can help assure that this course of action does not occur.

THE APPROPRIATE ROLE OF THE FEDERAL GOVERNMENT

The Chairman, in preparation for this hearing asked a series of questions which address the proper role of the federal government in the development of clean coal technologies. We are pleased to provide the following responses.

Question 1: Should the Federal Government be involved in developing clean coal technologies; and, if so, how should that involvement be structured?

Yes, unquestionably the Federal Government should be involved in the development of clean coal technologies.

If it is in the national interest to further technologies such as clean coal combustion, then the government must consider moving down the road from generic R&D toward commercialization. Government participation can help overcome technical, financial, and institutional barriers and enrich the choices for commercialization. Federal involvement should be structured along the lines of an investment banker where funds are advanced to specific parties for demonstration of promising technologies.

There is a guarantee of a stream of information that indicates whether a certain technology is cost-competitive when applied to utility scale applications. The information stream is probably most important for our industry for future planning for the retrofit of old plants and construction of new ones.

The federal involvement in a specific program might take two directions both occuring simultaneously. For those projects and technologies which are advanced, it may be the best public policy course to fund those demonstration projects which are sufficiently advanced to require only an incremental level of funding. For less mature technologies, a competitive process wherein technologies and their proposers compete with one another for federal assistance would be the best approach.

Government support for this program should not stop at the proof of concept scale as currently advocated by the DOE, but should be carried through the stage of commercial demonstration. The Energy Research Advisory Board (ERAB) has correctly noted the difficulty in bringing many of these clean coal technologies into full-scale utility application.

Question 2: What should be the size of the Federal investment to demonstrate these technologies, and how much would need to be appropriated over each of the next several years to carry out the program?

We applauded the Congress last October when you enacted the $750 million for the CCTR. This figure represents an appropriate level of effort for the next few years. Ideally, we would like to see an aggressive program funded over a five year period. Multiple year funding with an open authorization should be established to insure the continuity of the program and to assure that projects once begun can be completed.

Question 3: Which technologies show the greatest technical and market penetration potential for reducing the SO_x and NO_x emission from coal over the next 15 years?

The technology application is site specific, and hence both the technical and market penetration is going to be utility or industrial-site specific. However, there are a variety of general parameters and conditions that can be addressed.

At current power plants, those technologies with retrofit applications offer the best potential for marketplace penetration. In some cases, it may be coal cleaning technologies; in others, it may be related to stack-gas cleanup or improvement of existing flue gas desulfurization systems. In older plants where a company evaluates life-extension, other applications including some forms of fluidized bed, LIMB or other technologies may be appropriate for the boiler.

Where new generating capacity is needed in the future, or the complete overhaul of a station is going to take place, fluidized beds and integrated gasification combined cycle systems appear to have a most appropriate role. These technologies offer the promise of rapid and less expensive modular construction and significantly reduced emissions of SO_x, NO_x and particulate matter. They also appear to offer substantial capital cost reductions when compared with current coal generating technologies.

Question 4: At what scale should the Federal Government conclude its involvement in each technology?

We endorse the findings of ERAB in its May 1 report to the Secretary. On page 19 in the Summary of their Report, they wrote, "In most instances, the current policy of abandoning a development after Proof of Concept has been established will result in just that, abandonment." It is important that the Federal Government participate in demonstration of these technologies through the commercial scale.

Question 5: What would be the minimum percentage of Federal cost-sharing, or other Federal incentives, necessary to stimulate private sector leadership in each of these technologies?

We believe that the utility responses outlined in the Department of Energy report to Congress on May 1 illustrate very appropriate levels of funding. Specifically, there are 28 electric utility proposals in which the dollar needs have been spelled out in the informational proposals. On an aggregated basis, the co-funding levels are 58 percent of the funds from our industry and 42 percent from the federal government. Our industry is prepared to initiate projects worth approximately $3.6 billion with an equity offering of approximately $2.1 billion. Federal dollars which are requested for these projects are $1.5 billion. We recognize that this is substantially in excess of the funds authorized for the Reserve and that not every project can be funded.

Of these 28 proposed projects, 23 of the proposers have requested government participation of 50 percent or less. Fifteen proposers from our industry have offered the government private funding in excess of 60 percent.

Also there are some instances where the utility has offered existing power plants, equipment and engineering services for which the value is not shown.

It is important to note that the minimum percentage may vary from technology to technology based upon its scale of development and the amount of risk required to bring it to application. Likewise, the federal role may change dependent upon the size and risk of an investment being required by the various corporations who seek to do a commercial demonstration.

We are proud of our industry's record in this regard. We do not question the need for fiscal restraint in today's environment. I believe our responses reflect a great concern for the federal deficit. As noted above we are prepared to do as much of the funding of these demonstrations as possible within the limits imposed by regulatory agencies.

CONCLUSION

Clearly the advantages of clean coal are substantial. Some of these advantages such as modular construction are reflected in the investment decision process and will be captured by electric utilities and their customers. Others, particularly the environmental benefits of SO_x, NO_x and particulate removal, reflect larger public concerns. It is the responsibility of the government to assure achievement of these benefits for both new and retrofit applications.

To do that, the government must focus on two issues. First, it must act now. The decision window for planning facilities which will be needed in the 1990's is now. Without prompt action the probability of additional conventional facilities is greater. Without prompt action the United States will be handicapped in world technology competition.

Second, the government must recognize the role it can constructively play to move technology from R&D to commercialization. The primary role is with the private sector. But, when the public benefits are large and not fully reflected in the private investment criteria, then it is the proper function of the government to take action to capture those benefits for the public good.

We appreciate the opportunity to present our views on this program of vital interest to our industry and the health and well-being of our Nation.

STATEMENT OF DAVID O. WEBB, SENIOR VICE PRESIDENT, POLICY AND REGULATORY AFFAIRS, GAS RESEARCH INSTITUTE

Senator McClure. Mr. Webb.

Mr. Webb. Mr. Chairman and members of the committee, I am David Webb with the Gas Research Institute.

I appreciate the opportunity to appear before you today to discuss GRI's views and recommendations on the clean coal technologies initiative specified in section 321 of the Department of the Interior and Related Agencies Appropriations Act for Fiscal Year 1985.

It is particularly encouraging that over 175 private sector firms responded to the Department of Energy's request for statements of interest. This response is amazing when you consider that DOE made it extremely clear in its announcement that no funds are currently available and, furthermore, that DOE does not intend to request funds to start any of the demonstration projects.

The private sector response clearly indicates a need for Federal cofunding to accelerate research for and demonstration of emerging clean coal technologies.

GRI fully supports funding being made available to DOE for cofunding of clean coal technology demonstrations with industry, especially for nearer term applications that use nitro gas in combination with other technologies for flue gas cleanup and for the longer term coal gasification applications that will provide one of the most cost-effective methods to clean up our vast coal resources.

In the near term the use of gas in a reburn mode for nitrogen oxide reduction and as a transport medium for sorbent injection to reduce sulfur dioxides as an integral part of flue gas cleanup and coal combustion systems offers the potential for early retrofit in many utility and large industrial boilers. These technologies should be given a high priority in any demonstration program.

A review of the DOE report to Congress on emerging clean coal technologies indicates the largest number of responses were in the four technology areas that appear to have the most near-term impact. These technologies, flue gas cleanup, surface coal gasification, fluidized bed combustion, and coal preparation are all at a state of development where the next logical step is field demonstrations.

Since these four technologies were proposed by over 70 percent of the private sector firms that responded and recommended a specific process, their demonstration in coal funding field tests should receive immediate attention and top priority.

Also, the DOE report indicated that over 90 percent of the submissions requested cost sharing rather than other forms of financial assistance. This convincingly indicates that direct Federal support through coal funding is the appropriate support.

The Energy Research Advisory Board emphasized important policy factors in its draft report to DOE on clean coal use technologies. Two of these factors I would like to highlight.

One is the diversity of coal use situations and the site specificity of problems with the technologies indicate that no general technology or solution can be presented. In other words, there is not a single solution to the problem. This is particularly true for retrofit applications.

The draft ERAB report also noted that DOE policy has recently excluded work beyond the proof-of-concept stage. This policy limits timely commercialization of new technologies and a revision of this policy is recommended.

There are two other points that I would like to touch on briefly.

Federal policy has long overlooked the significant role natural gas can play in helping the Nation use its coal in an environmentally acceptable manner. Therefore, it is significant in encouraging that several of the responses to demonstrate flue gas cleanup included the use of gas for both knocks control and NO_x control and to assist in SO_2 control.

Natural gas is our Nation's cleanest fossil fuel. Its combustion emits virtually no pollutants and it produces far lower emissions of nitrogen oxides and carbon monoxide per unit of energy than other fossil energy.

Used selectively either alone or with more polluting fuels, relative small quantities of natural gas could contribute significantly to protecting our air quality in a least cost manner.

Given the size of the gas resource base, cost-effective solutions to using coal cleanly are both possible and practical by using natural gas as part of the solution. Therefore, using gas as part of the overall approach to controlling pollutant emissions during coal use should become one element of national energy policy.

In evaluating the urgency of moving forward with the clean coal technology demonstrations I think it is informative to briefly recap the changes in energy policy that have occurred since the Energy Security Act in June 1980. With the Iranian crisis in 1979 the United States was faced for the second time in 6 years with skyrocketing crude oil prices.

Responding to the need to develop domestic sources of energy, Congress created the Synthetic Fuel Corporation to provide financial assistance to the private sector to undertake commercial synthetic fuel projects. Simultaneously and at the same time Congress supported in DOE a large and very aggressive Fossil Fuels Demonstration Program.

It was assumed that technology developed in these DOE programs would be available to the SFC to draw upon for commercial demonstrations especially in phase 2.

However, today the DOE Fossil Fuels Demonstration Program has been terminated. The result is a serious technology gap between commercialization and small bench scale testing. Yet DOE has continued to insist that research demonstration activities are the role of the private sector and will be guided by market forces.

However, in some industries market forces are not sufficient. Many of the markets in which energy is sold are not free. As ERAD noted in its 1982 report to DOE on energy R&D priorities, and I quote:

> A little over one-half of our primary energy finds its way to consumers through the electric and gas utilities, and these utilities are regulated price controlled industries selling their products not at free market prices but at controlled prices. Both these regulated industries have weak incentives to spend on R&D. If successful, the benefits go to the ratepayer and if unsuccessful the expenditures may be disallowed as imprudent. In this environment the utility simply does not have the incentives to make the necessary research investments to adequately demonstrate urgently needed clean coal technologies. Therefore, the current DOE policy has and is creating a series technology gap

Mr. Chairman, recently we have been doing research with the Environmental Protection Agency in looking at using gas as part of the flue gas cleanup system to control NO_x and SO_x emissions from coal combustion. Using gas as a reburning fuel to reduce NO_x emissions and using gas to generate more reactive and higher capture efficiency of sorbents for enhanced SO_x reduction looks extremely promising.

The Japanese recently did some research in controlling NO_x where they used in furnace NO_x reduction by downstream injection of gas. When using gas as the reburn fuel, it appears that this technology is capable of reducing NO_x by approximately 50 to 60 percent below the current national source performance standard levels.

Using gas in these roles would make about 10 or 15 percent of the total fuel requirement in a large combustion system so it wouldn't have a conflict with the Clean Air Act or the Fuel Use Act and these applications would allow us to move forward rapidly in demonstrating some ways to use our coal more cleanly.

In summary, Mr. Chairman, after reviewing the DOE report and the draft ERAB report I recommend the following:

Congress recognize that DOE has a leading role in demonstrating new clean coal technologies and appropriate funds in fiscal year 1986 to initiate a limited number of the proposed clean coal technology demonstrations.

Priority should be given to the four near-term technologies proposed by over 70 percent of the respondents. These are flue gas cleanup, coal gasification, fluidized bed combustion, and coal preparation.

Third, use of nitro gas in the demonstration of flue gas cleanup should be assigned a top priority.

Fourth, the private partner in technology users should be responsible for providing a significant portion of the construction and operation costs of any facility through coal funding.

Fifth, the executive branch should leave the day-to-day management of the project to the industrial partner.

Sixth, priority should be given to proposals that reduce total cost by using existing facilities and sites. In many cases this will be two-thirds less expensive than building a grassroots stand alone demonstration facility.

And, finally, the Synthetic Fuel Corporation should be encouraged to make provisions in its financial assistance package for commercial synfuel plants to require the capability for testing advanced technologies at the plant site in the future. Again, this would give us test beds for testing the more promising technologies at a fraction of the cost of building stand alone plants.

In conclusion, the current Federal energy research policy has created a technology gap for fossil fuels research by restricting the DOE role to proof of concept. Congress can take a bold step toward closing this gap by appropriating funds in fiscal year 1986 for clean coal technology demonstrations.

Thank you, Mr. Chairman. I will be glad to respond to questions at the end of the panel.

PREPARED STATEMENT

Senator McClure. Thank you, Mr. Webb. We will place your statement in the record in its entirety.

[The statement follows:]

STATEMENT OF DAVID O. WEBB

I appreciate the opportunity to appear before you today to discuss the Gas Research Institute's views and recommendations on the clean-coal technologies initiative specified in Section 321 of the Department of the Interior and Related Agencies Appropriations Act for FY 1985 enacted by House Joint Resolution 648, Public Law 98-473. It is particularly encouraging that 175 private-sector firms responded to the Department of Energy's request for statements of interest. This response is amazing when you consider that DOE made it extremely clear in its announcement that no funds are currently available and, furthermore, that DOE does not intend to request funds to start any of the proposed projects. The private-sector response clearly indicates a need for federal funding to accelerate research for and demonstration of emerging clean-coal technologies. GRI fully supports funding being made available to DOE for clean-coal technology demonstrations, especially for near-term applications that use natural gas in combination with other technologies for flue-gas cleanup and for longer-term coal gasification applications that would provide one of the most cost-effective methods to clean up our vast coal resources. In the near-term, the use of gas in a reburn mode for nitrogen oxides (NO_x) reduction and as a transport medium for sorbent injection to reduce sulfur dioxide (SO_2) as an integral part of flue-gas cleanup in coal combustion systems offers the potential for early retrofit in many utility and large industrial boilers. These technologies should be given high priority in any demonstration program.

GRI is an independent, not-for-profit scientific research organization that plans, manages, and develops financing for a cooperative research and development program for the mutual benefit of the gas industry and its present and future customers. The R&D program is implemented through contracts with research organizations, engineering, and other professional service firms, universities, energy companies, and manufacturers. Even though GRI is not a government contractor and does not accept federal funds, GRI cofunds and coordinates many of its research programs with DOE. Therefore, Congress's actions on the FY 1986 DOE budget have a direct impact on the gas industry's research program.

A review of the DOE report to Congress, Emerging Clean Coal Technologies dated May 1985 indicates the largest number of responses were in the four technology areas that could have the most near-term impact. These technologies--flue-gas cleanup, surface coal gasification, fluidized bed combustion, and coal preparation--are all at a state of development where the next logical step is field demonstration. Particularly encouraging to GRI is that two of the technologies--flue-gas cleanup and coal gasification--recognize the role of natural gas to clean up our nation's coal. These applications of natural gas have tremendous potential. Since these four technolgies were proposed by over 70 percent of the private-sector firms that responded and recommended a specific process, their demonstration in cofunded field tests should receive immediate attention and top priority.

Also, the DOE report noted that nearly all of the submissions requested direct cost-sharing rather than other forms of financial assistance. This cost-sharing is necessary due to the significant risks associated with the technologies; the current softening of world oil prices; the inability for many utilities to recover capital costs due to the novelty of the technologies; a lack of evidence that the technologies are practical, useful, and economical; and the need to accelerate the commercialization of the technology through demonstrations so the technologies are available to industry in the early 1990s. These factors convincingly indicate that direct federal support through cofunding is required to accelerate the commercialization of clean-coal technology. Without this federal support, many of these technologies will not be demonstrated. Others eventually will be demonstrated by the private sector but not in time to meet the nation's need for future energy demands.

Other factors emphasized by the draft Energy Research Advisory Board (ERAB) report to DOE on clean-coal technologies that must be recognized are that the number of coal-use situations is so large and diverse and the specific problems are so site-specific that no generally applicable technology or solution can be presented. This is particularly true for retrofit applications which represent the overwhelming majority of the market. The draft ERAB report also noted, "DOE policy has recently excluded work beyond the proof-of-concept stage; this policy limits timely commercialization of new technologies, and a revision of this policy is recommended." Therefore, the use of federal funds to cofund the demonstration of multiple technological approaches with industry is the most viable solution to using our coals cleanly.

ROLE OF GAS IN CLEAN-COAL TECHNOLOGIES

Federal policy has long overlooked the significant role natural gas can play in helping the nation use coal in an environmentally acceptable manner. It should be emphasized that several of the responses to demonstrate flue-gas cleanup include the use of gas for both NO_x control and to assist in SO_2 control. In fact, for near-term and many retrofit applications, gas used in combination with coal combustion systems is probably the best solution.

Natural gas is our nation's cleanest fossil fuel. Its combustion emits virtually no particulates, sulfur oxides, or reactive hydrocarbons, and it produces far lower emissions of nitrogen oxides and carbon monoxide per unit of energy than coal or oil. Used selectively, either alone or with other more polluting fuels, relatively small quantities of natural gas could contribute significantly to protecting our air quality in a least-cost manner. Given the size of the gas resource base and the economics of gas production, the competitive position of gas relative to other environmental control options should remain favorable. In addition, a million-mile pipeline and distribution network is already in place which extends to most potential select gas-use customers. Thus, cost-effective solutions to using coal cleanly are both possible and practical by using natural gas.

Gas can be used in one combustion unit to offset the emissions from dirtier fuels, such as coal, in another unit; it can be used for simultaneous combustion of gas and coal in a single combustor; and it can be used in flue-gas cleanup systems as a transport mechansim for sorbent injection to reduce sulfur oxides (SO_x) and in a reburn mode to reduce NO_x. Therefore, using gas as part of the overall approach to controlling pollutant emissions during coal use should become one element of national energy policy.

FEDERAL ENERGY R&D FUNDING POLICY SHIFTS

It is important to review the shift in priority this Administration has assigned to energy R&D when examining the need for DOE support for clean-coal technology demonstrations. The dramatic decline in energy R&D funding is very evident when comparing the FY 1981 and 1986 requests after deleting the business-related functions. This decline is easily obscured since the Administration included $2.4 billion of weapons R&D and $685 million of general science activities in the FY 1986 energy R&D budget category. When these non-energy-specific items are removed from the energy R&D budget, in FY 1986 the Administration requested only 20 percent--or a $2.3 billion allocation--for energy R&D programs, while in FY 1981 it requested about 60 percent--or $5.9 billion, for energy R&D.

Another factor limiting technology demonstration and transfer to industry is that DOE has established a general policy of not funding research beyond proof of concept. This policy of leaving hardware development solely to industry sounds nice, but it hasn't worked. The result is a technology gap that is widening as DOE continually withdraws to long-term and basic research. The justification for intermediate-range energy applications R&D is as strong as ever. DOE must once again reemphasize energy R&D and establish technology development resulting in hardware projects and demonstrations as a focal point for fossil energy research.

DOE R&D AND DEFENSE PROGRAMS
($ Billions)

	FY 1981	FY 1986
Energy R&D	$ 5.922	$ 2.295
General Sciences	0.523	0.685
Department Management	0.362	0.299
Defense Programs	3.443	8.060
TOTAL	$10.250	$11.269

If national energy policy continues this trend of constant reduction in energy R&D spending and no federal support for technology demonstrations, we will soon find ourselves without technology for full development of our vast domestic fossil fuel resources.

U.S. ELECTRICITY OUTLOOK

In determining the most prudent federal role in supporting demonstrations of clean-coal technologies, it is critical to consider the extent to which the U.S. must rely on coal to meet its electric power generation demands between now and 2010. As a result of several major independent trends, the use of coal in the U.S. is expected to continue to increase at a reasonably steady pace for most of the next 25 years. The two major influences of this trend are the continued high (compared to coal) price of oil and the reduced contribution of nuclear power. Both private and federal forecasts agree that the U.S. will continue to rely on fossil fuels for over 75 percent of its energy supplies during the next 25 years.

However, unless technology is developed and demonstrated to allow the U.S. to utilize its coal in an environmentally acceptable manner, the U.S. faces the possibility of shortages in electric generating capacity in the 1990s. Under any reasonable scenario of growth, electric consumption will increase. As stated by DOE Secretary Herrington in a speech on April 23, "Demand for electric power has continued to show a strong relationship with the growth of our economy." GRI's modeling efforts indicate future electric-use growth will be at a rate equal to approximately 85 percent of the rate of growth of the economy. Therefore, unless our economy is totally stagnant with resulting rapid increases in unemployment and misallocation of resources, electricity demand in the 1990s will continue to increase and will require the construction of new generating plants. While gas-fired combined-cycle power plants can meet some of the projected demand, if nuclear power does not make a quick resurgance to survive as a viable future U.S. energy option, coal is the major domestic energy option with sufficient long-term resources to fuel the majority of U.S. power plants. This scenario becomes especially convincing when you consider that the U.S. holds one-quarter of the world's known coal reserves, and electricity use, even with all of the conservation due to higher energy prices and economic downturns, has grown by approximately 30 percent since 1973.

The activation of the $750 million clean-coal technology fund to allow DOE to demonstrate clean-coal technologies in partnership with the private sector would be a valuable investment for securing our future energy needs under environmentally safe conditions.

A "TECHNOLOGY GAP"

In evaluating the urgency of moving forward with the clean-coal technology demonstrations, it is informative to briefly recap the changes in energy policy since the Energy Security Act in June 1980. With the Iranian crisis in 1979, the U.S. was faced, for the second time in six years, with skyrocketing crude oil prices. Responding to the need to develop domestic sources of energy, Congress created the Synthetic Fuels Corporation to provide financial assistance to the private sector to undertake commercial synthetic fuels projects. The Energy Security Act authorized up to $88 billion for synthetic fuels development, of which $20 billion was appropriated in 1980 for Phase I.

At the same time, DOE had a large and very aggressive fossil fuels demonstration program. It was assumed that technology developed in these DOE programs would be available for the SFC to draw upon for commercial demonstrations, especially in Phase II. However, today the DOE fossil fuels demonstration program has been terminated.

The result is a serious technology gap between long-term generic research and commercialization. DOE's current R&D policy does not fund "process" development or pilot plant activities. However, the process development stage is perhaps the most crucial stage in the development of a new technology. It is during this stage that a good technical idea is turned into a process with commercial potential. The construction and operation of a process development unit (PDU) leading to demonstration of the technology at pilot or pioneer plant scale are both essential steps in advancing technology. Neither step can be skipped. Yet DOE has continued to insist these research activities are the role of the private sector and will be guided by market forces.

However, in some industries, market forces are not sufficient. Many of the markets in which energy is sold are not "free." As ERAB noted in its 1982 report to DOE Energy R&D Priorities:

> A little over half our primary energy finds its way to consumers through the electric and gas utilities, and these utilities are regulated, price-controlled industries selling their products not at free market prices, but at controlled prices. Both these regulated industries have weak incentives to spend on R&D. If successful, the benefits go to ratepayers; if unsuccessful, the expenditure may be disallowed as "imprudent." A strong R&D response to price signals requires both motivation and capability. In many cases the capability is simply lacking.

If there is one thing the energy crisis of the past 12 years has taught us, it is that uncertainty is the only certainty. Long-term energy forecasts have proven to be consistently wrong. We cannot make policy assumptions with any confidence regarding the direction of energy demand, production, and prices. The real interest rates are double the historical experience, and the cost of capital for construction is high. Also, it must be recognized that the economics of many emerging clean-coal technologies are driven by the price of world oil, and this price is not based on production costs but is established by a cartel. In other words, the typical utility executive must make major energy decisions in a very unstable and uncertain operating environment.

In this environment, the utility sector simply does not have the incentives to make the necessary research investments to adequately demonstrate urgently needed clean-coal technologies. Therefore, the DOE policy has created a serious technology gap. The use of the clean-coal technology reserve to give DOE the resources to cofund these demonstrations with private industry is needed to close this gap.

Two gas-related technologies that can make a major contribution to using our nation's coal cleanly are coal gasification and flue-gas cleanup using gas-enhanced dry sorbent injection and reburn. Both require federal support for field demonstrations to close the "technology gap."

Coal Gasification

The establishment of a commercial coal gasification industry depends not only on the development of technically and economically viable coal conversion processes, but also on the extent to which those processes are compatible with the environment. New technologies are required to meet the nation's increasingly stringent environmental standards. Advanced coal gasification technologies, with the potential for significant technical, economic, and environmental improvements compared to the commercially available technology, have emerged from the extensive R&D programs that have been supported by the federal government, by GRI, and by other organizations.

In response to the DOE Office of Fossil Energy solicitation for statements of interest for projects related to development of emerging clean-coal technologies, GRI submitted a statement recommending a coal gasification test facility at an existing host site. This project would result in the large-scale validation of advanced coal gasification processes for combined-cycle power applications, for producing pipeline-quality gas from coal, for gas cleanup and methanation, and for testing components and instrumentation.

For these advanced technologies for producing gas from coal (whether for power generation or pipeline-quality gas) to receive adequate consideration as a supplemental energy option, engineering performance data must be available from commercial-size or near-commercial-size systems in the mid-1990s. This will permit the reliable definition of capital requirements and end-product gas costs under conditions where the technical risks associated with the scale-up of the advanced technologies have been reduced to an acceptable level.

GRI is proposing to place a commercial-size or near-commercial-size advanced coal gasification process in an industrial environment where existing supporting systems and utilities are available and where the gasifier products could be utilized in the industrial operation. The gasifier should be oxygen-blown and operate at a pressure of 450 psi to 500 psi in order to provide data relevant to gas production. The program should be structured to accommodate the integrated slip-stream testing of the advanced downstream processing components that would be used to upgrade the gasifier products to a pipeline quality gas.

In 1984, at the request of the Congress, the U.S. Department of Energy conducted a preliminary study to examine the feasibility of installing and operating a semi-works, fluid-bed gasifier at the Great Plains coal gasification plant. The study was prompted by the recognition of a need to develop engineering data at a large scale for the advanced gasification technology that was under development in the U.S. and the existence of a large coal gasification plant infrastructure that could help defray the costs associated with developing the required system performance data. In addition to providing detailed technical data on gasifier operation and environmental interactions, substantial experience would be gained in operating commercial-size units based on the fluid-bed, ash-agglomerating technology.

The DOE study concluded that the concept of continuing the development of advanced fluid-bed coal gasification technology at the semi-works (600- to 1,000-tons-per-day) scale at the Great Plains coal gasification plant was feasible and had merit. The developers of the gasifier technologies that might be candidates for continued development at the semi-works scale at the gasification facility also supported this approach to advanced gasifier technology development.

The study considered a test program that would be more comprehensive than just an advanced gasifier activity and would provide for the testing additional gas processing components. Such components could include advanced downstream processing systems designed for the production of pipeline-quality gas and systems for integration with advanced electric power generation systems, i.e., hot gas cleanup, combustion turbines, etc.)

It is estimated that the design and construction of a 1,000-ton-per-day unit, and the necessary modifications to the existing facility would cost approximately $80 million and would have attendant annual operating costs of approximately $12 million. Assuming six years of operation, the total project cost would be about $150 million. A government/industry 50-50 cofunded project is appropriate at this time because short- and mid-term uncertainties of energy supply make it impossible to identify sufficient short-term incentives that justify capital expenditures for technologies where technical risks have not been demonstrated to be low.

No current commercial system has been satisfactorily demonstrated for high-sulfur caking coals, which are predominantly found in the eastern parts of the U.S. Some advanced concepts, however, have emerged from the extensive R&D efforts and appear to offer the potential for significant improvements over the technology that is commercially available for converting eastern coal to gas. These improvements are in the form of increased flexibility, lower capital costs, lower operating costs, reduced end-product gas costs, and reduced environmental impacts.

GRI's proposed coal gasification test facility project has the following principal objectives:

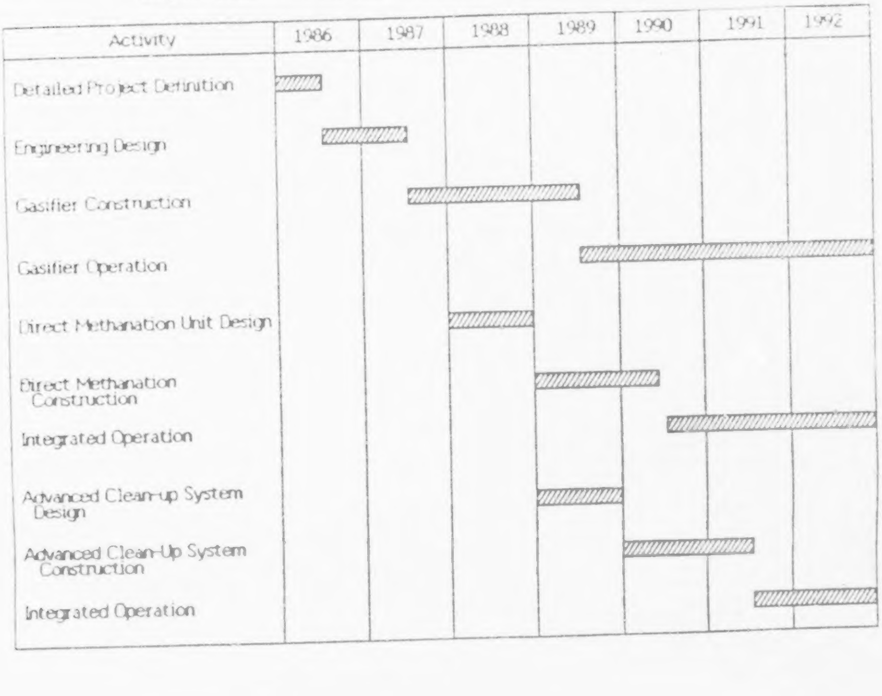
1. To demonstrate that the emerging coal gasification technologies have direct application to the production of pipeline-quality gas from eastern coal and offer significant technical, environmental, and economic advantages over the commercially available state-of-the-art technology.

2. To validate the performance characteristics of the emerging coal gasification technologies at a scale that will provide the heat balance, material balance, environmental data, and operational data needed to develop reliable cost estimates for future coal-to-gas plants based on these technologies.

3. To demonstrate the integrated performance of advanced gasifier technology and advanced downstream processing technology such that commercial systems could be constructed to maximize the technical, economic, and environmental advantages of these technologies.

Federal cofunding of this advanced coal gasification test facility with the private sector through the use of funds from the clean-coal technology reserve would be a cost-effective and prudent investment in the U.S. energy future. This should be assigned a high priority in any clean-coal technology program.

Project Schedule: Large Scale Demonstration- Emerging SNG Technology



Gas-Enhanced Dry Sorbent Injection and Reburn

Concern over acid precipitation and anticipated acid deposition legislation has created an incentive for government and industry to develop more cost-effective technologies to control both sulfur and nitrogen oxides from coal and oil combustion, particularly utility and large industrial boilers.

GRI and the U.S. Environmental Protection Agency are currently cofunding the Energy and Environmental Research Corporation (EERC) of Irvine, California, to develop dry sorbent injection technology combined with combustion modification techniques to control SO_x and NO_x emissions from coal and oil combustion. GRI's portion of this study is to examine control of NO_x and SO_x emissions from coal combustion by incorporating two developing gas combustion technologies which can be applied individually or as an integrated system.

1. Reburn Technology. Use of natural gas as a reburning fuel to reduce NO_x emissions.

2. Sorbent Injection Technology. Use of natural gas to generate more reactive and higher capture efficiency of sorbents for enhanced SO_x reduction.

EPA provided $860,000 ($400,000 in FY 1983 and $460,000 in FY 1984) in coordinated funding for the project via their existing reburn/sorbent injection contract with EERC. GRI's project ($937,900), which began in April 1984, expands EPA's original focus on coal-fired reburning/sorbent injection at EERC to include an evaluation of the additional benefits (e.g., cost reduction, increased emissions control, etc.) obtainable from the use of gas.

Sulfur oxides can be controlled by removing sulfur from the fuel or sulfur oxides from the products of combustion. However, current methods such as scrubbers or coal cleaning generally are capital intensive with high operating and maintenance costs or do not provide the necessary degree of SO_x control. One of the more promising SO_x control strategies is to inject calcium-based sorbents into the combustion chamber and capture the sulfur prior to the boiler outlet. This process was investigated in the late 1960s and was abandoned because it could not achieve the desired SO_x control and also tended to create operational problems. Recently, there has been sufficient incentive to re-examine the limestone injection process (e.g., LIMB) as a cost-effective alternative that could approach FGD sulfur removal at a lower cost. The EPA's efforts in recent years have focused on the development of this technology for coal-fired boilers. GRI's program with EERC is to enhance the cost-effectiveness of this technology through the use of gas combustion technology. Gas appears to offer significant sorbent injection performance benefits because it can be used to more effectively control the conditions at which limestone sorbent is calcined and mixed with the coal combustion flue gases; it can avoid coal-ash/sorbent interaction problems that decrease sorbent surface area; and it can be used more effectively to optimize the temperature profile of the sulfation zone where sulfur capture occurs.

Nitrogen oxide emissions are also considered, although historically to a lesser extent, as a contributing factor to acid deposition. The attention to NO_x as an acid deposition processor is increasing as scientific evidence tends to indicate that both SO_x and NO_x are contributors. The formation of NO_x during the combustion of fossil fuels can be minimized by appropriate modification of the combustion mixing process.

Recently, the Japanese have been exploring a new NO_x control strategy which involves in-furnace NO_x reduction by downstream injection of gas. EPA is currently conducting research programs to evaluate the potential of this technique for application to U.S. boilers. The term "reburning" has been coined in the U.S. to refer to this process. Where using gas as the reburn fuel, it appears that this technology is capable of reducing NO_x by approximately 50 to 60 percent beyond the current NSPS level achievable with low-NO_x burners. The use of coal or oil as a reburning fuel may introduce operational problems because of poor carbon burnout resulting in a loss of efficiency as well as slagging in the platens or primary superheater region. The specific technical benefits of using gas as the reburning fuel are that gas can be applied without the combustion problems associated with coal-firing in upper boiler regions; gas allows lower exhaust NO_x emission levels to be achieved since it is nitrogen-free; and gas avoids the presence of molten ash in the superheater boiler region, thereby minimizing slagging and fouling problems.

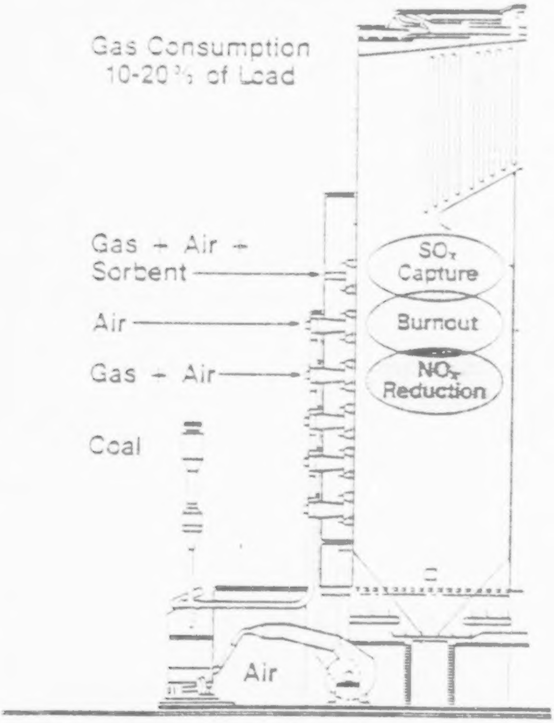
The use of gas technologies could also have an application in those instances where oil-fired boilers are being converted to coal/water slurry mixtures. Combustion systems which burn coal water slurries efficiently in boilers designed for oil rely upon efficient fuel/air mixing, precisely those conditions which promote the formation of nitrogen oxides. Consequently, any conversion could result in a considerable increase in both SO_x and NO_x emissions. An additional problem associated with conversion to coal-water slurries is the need to derate the unit to prevent excessive erosion in the convective sections. Natural gas used as a reburning fuel with or without sorbent injection can help solve two problems--pollutant emissions and unit derating.

Potential benefits of gas use are both environmental and economic. The development of more cost-effective SO_x, NO_x and combined SO_x/NO_x control technologies using gas would lower energy costs and improve air quality. The economic benefits are broad-based and provide an alternative to high-cost flue-gas scrubbing technologies and increased ability to use the nation's natural resources along with a decreased dependency on imported oil. The environmental benefits would accrue by significantly reducing the quantity of pollutants emitted by coal or oil burning.

In conclusion, gas has the unique advantage of allowing the simultaneous application of reburn and sorbent injection technologies in the same boiler. Over the next five years, GRI plans to spend approximately $5 million to $6 million to support research and development of the reburn/sorbent injection technology for application to industrial and utility boilers. By using natural gas to enhance reburn/sorbent injection technology, GRI's goal is to increase the NO_x/SO_x capture performance of this technology to NO_x levels lower than attainable with low-NO_x burners and to attain SO_x levels approaching that of wet scrubbing but at a significantly lower cost. Different technology variations are being explored at both bench and pilot scales. The next step is to initiate full-scale testing of reburn technology starting in 1986. This testing should be performed using both an industrial and a utility boiler to demonstrate retrofit applications.

Multiple field tests of reburn/sorbent injection technology as an integral element of flue-gas cleanup are required as application techniques are likely to vary significantly with boiler type (cyclone, pulverized coal, stoker, etc.) It is estimated that field testing of these two technologies will require an investment of approximately $25 million to $30 million dollars over the next five to seven years. Government cofunding to demonstrate the use of gas in reburn/sorbent injection technology as a central element of the clean-coal initiative is needed now.

GAS APPLICATIONS RESEARCH



Gas Enhanced Dry Sorbent Injection
Plus Gas Reburn -
SO$_x$/NO$_x$ - Control

FY 1986 FUNDING

The need to demonstrate near-term clean-coal technologies through cost sharing with industry is urgent. Therefore, a limited number of projects should be initiated in FY 1986. Based on the DOE report and the draft ERAB report, authorization of up to one-third of the $750 million clean-coal reserve would allow DOE to conduct competitive solicitations for flue-gas cleanup, coal gasification, fluidized-bed combustion, and coal preparation demonstrations. Due to the time required to hold the solicitations, negotiate cofunded contractual agreements, and complete detailed design and engineering for the projects, I estimate that less than $100 million would actually be spent in FY 1986.

RECOMMENDATIONS

As a result of reviewing the DOE report, the draft ERAB report, and the current status of coal gasification and gas reburn and sorbent injection technology, I recommend the following:

1. Congress recognize that DOE has a leading role in demonstrating new clean-coal technologies.

2. Congress appropriate funds in FY 1986 to initiate a limited number of the proposed clean-coal technology demonstrations. Priority should be given to the four near-term technologies proposed in over 70 percent of the process-specific responses--flue-gas cleanup, coal gasification, fluidized-bed combustion, and coal preparation.

3. Use of natural gas in the demonstration of flue-gas cleanup should be assigned a top priority.

4. The private partner and technology users should be responsible for providing a significant portion of the construction and operation costs of the facility through cofunding.

5. The executive branch should leave the day-to-day management of the project to the industrial partner. The Energy Security Act incorporated a sound philosophy on the role of the SFC program managers in joint ventures that should be adopted by DOE in any demonstration program. Participation is "limited to financial participation only and shall not include any direct role in the construction or operation of the module."

6. Priority should be given to proposals that use existing facilities and sites when determining which proposals to select. It should be recognized that a stand-alone plant will usually be the most expensive type of technology demonstration and, therefore, should only be considered as a last resort.

7. The SFC should be encouraged to make provisions in its financial assistance packages for commercial synfuels plants to require the capability for testing advanced technologies at the plant site in the future.

CONCLUSION

In conclusion, the current federal energy research policy has created a "technology gap" for fossil fuels research by restricting the DOE role to proof of concept. Congress can take a bold step toward closing this "gap" by appropriating funds in FY 1986 for clean-coal technology demonstrations to be cofunded with industry. A joint DOE/industry program is needed now.

Mr. Chairman, this completes my testimony. I will be happy to respond to any questions.

STATEMENT OF MICHAEL S. KOLEDA, PRESIDENT, COUNCIL ON SYNTHETIC FUELS

Senator MCCLURE. Mr. Koleda.

Mr. KOLEDA. Mr. Chairman and Senator Byrd, my name is Michael Koleda, and I want to thank you for the opportunity to testify this morning on behalf of the Council on Synthetic Fuels.

My prepared statement you have and you will insert it in the record. So I just want to make a couple of points with you here.

First, I think that this hearing comes at an exceptionally timely point in the energy future of this country. I think the work of this committee in its entirety is going to be substantial in the months and years ahead, and I also think that the future for coal lies not so much in the fact that it is our most abundant resource as in the fact that it will become because it must become one of our acceptable energy resources, something that it has not been in the past frankly because of the environmental problems associated with it.

Solving those problems and mitigating those problems is at the center of the future of the coal industry. Now coal technology is going to be a central issue in the years ahead simply because of two factors that we are in the midst of today. One of them is a liquid fuels problem that was touched on earlier.

Anybody who reads the papers and pays attention can be unaware of the fact that Mr. Pickens' activities is restructuring the oil industry in the United States as we sit here today. That restructuring began in the 1980's as companies merged one with another. At the moment it is an effort to increase the value of the stock of those companies, and you do that by reducing their ability to take risks.

There will be less drilling as the Minerals Management Service said and Senator Byrd quoted. There is less oil to drill for. The inevitability, and it is known by anyone in the industry that you talk with, is increased oil imports. The way we solve that is with coal. The way we solve it is with coal technologies. The Synfuels Corporation is set up to do that end of it, as Eric Reichl said.

There is another side to coal's positive future, the utilities, but it is going to be with the clean use of coal, as has been mentioned by the panelists here today.

The free market is not going to solve either that oil problem that I just mentioned, nor is it going to solve the clean coal problem because it is a regulated utility.

PREPARED STATEMENT

So all I will say, in addition to my prepared statement, is that you folks are to be commended for initiating this program and it is probably far more timely than you even thought when you put it together last year. So your work is cut out for you and we look forward to working with you.

[The statement follows:]

STATEMENT OF MICHAEL S. KOLEDA

Mr. Chairman, on behalf of the member companies of the Council on Synthetic Fuels, I would like to thank you for this opportunity to testify in support of fiscal 1986 appropriations for the Clean Coal Technologies Program created by Public Law 98-473.

This hearing is particularly timely, following closely the DOE report to the Congress and the draft report of the Energy Research Advisory Board (ERAB) panel on clean coal use technologies.

Both reports address the fundamental questions that your committee is wrestling with today: Are the financial incentives authorized under P.L. 98-473 necessary and will they accelerate the commercial availability of clean coal technologies?

If -- as the Department of Energy contends -- we cannot rationalize the Clean Coal Technologies Program on the basis of effectiveness and necessity, then, under the current federal budgetary conditions, we cannot defend the expenditure of these funds before the American people.

If, however -- as the ERAB report finds -- a clean coal program can accelerate the commercialization of the technologies, and provide significant economic and environmental benefits to the Nation, then we should proceed with the program.

Mr. Chairman, my reading of the program's intent and the U.S. energy situation leads me to side with the ERAB view.

RATIONALE FOR THE CLEAN COAL TECHNOLOGIES PROGRAM

The Congress recognized three fundamental premises of national energy policy in enacting the Clean Coal Technologies Program:

o As a long term energy strategy, it is in the national interest to increase the use of our plentiful solid fossil fuel reserves such as coal to supplement (and eventually, to replace) declining reserves of petroleum and natural gas.

o The primary instruments for increased coal use in the near term will be the electric utility industry and large industrial users. The utility industry now accounts for approximately 85% of U.S. coal consumption.

o If we are to increase the use of coal in utility and large industrial applications, we must bring to commercial readiness new, more efficient technologies that can be added in modular increments and that will reduce significantly air emissions associated with conventional coal combustion.

Mr. Chairman, I would like to stress especially this last point -- the need to meet growth in utility coal use with the emerging clean coal technologies. For if the Nation is to reduce further utility sulfur emissions and at the same time increase electricity generating capacity in the 1990's, we must begin now to develop commercial technologies to make coal a more economically and environmentally attractive fuel. The current public debate on acid rain seems to lead to no other conclusion.

To understand the need for these technologies, one must look at the economics of the utility industry today. Individual utilities place great emphasis on avoiding large capital investments by stretching out the useful lives of existing facilities, looking to non-capital-intensive sources of electricity (conservation and purchased power), and, when necessary, adding capacity in the smallest increment possible.

At the same time, environmental regulations facing the utility industry are likely to become more, rather than less, stringent. However, plants using commercially available combustion and flue gas scrubber technologies must be built at a large scale to be economically feasible. Scrubbers kill the economics of smaller plants.

The solution to this dilemma lies in the application of new clean coal technologies that permit construction of smaller increments of capacity while retaining or improving environmental performance. However, the regulated utilities face a number of constraints to their bringing new clean coal technologies to commercial use.

The experiences of the 1970's, when demand growth fell short of historical trends and left many utilities with over-capacity, have tempered enthusiasm for any new construction. Utilities are even less enthusiastic about making a capital commitment to new, unproven technologies. Investment today in a cleaner, more efficient technology, may appear farsighted to many a utility executive. But in ten years, if the plant's economic or environmental performance fails to pan out, the capital outlay may be judged an imprudent risk by a public utility commission, to be paid for by utility stockholders, not utility customers.

In such an investment climate, a premium is placed on maintaining existing facilities' useful lives, load management, conservation programs and other attempts to make do with what is at hand. This non-investment option reduces greatly the need for large capital outlays and strengthens the financial position of a utility. But it does not introduce new generating capacity nor bring to commercial readiness new and improved technologies.

The Department of Energy estimates that by the year 2000, assuming a modest growth in electricity demand, some 200,000 megawatts of new coal-fired generating capacity will be needed in the U.S. The DOE also points out that only about one-third of this capacity is currently planned or under construction.

The Electric Power Research Institute (EPRI) puts it another way: the electricity generating capacity currently installed or assured of construction completion will support an average growth rate in electricity demand of less than 1% per year over the remainder of the century. As a basis for comparison, electricity demand growth since 1973, a period of poor economic performance and an unprecedented decline in demand growth, averaged 2.3% per year. Most forecasts for the next fifteen years range between 2% and 3% annual growth in demand.

The unknown variable in the equation is the effect that more stringent sulfur emissions controls could have on the availability of older existing plants. EPRI estimates that of the 200,000 megawatts of existing capacity that could be affected by federal acid rain legislation, 75% is generated by plants over 25 years old. If utilities were required to add flue gas scrubbers and other emissions control equipment to these units, the number that would be retired could increase sharply because of cost and physical limitations. This in turn would increase the need for new capacity -- new capacity that is not now being planned for, much less built.

This combination of a hiatus in construction of new electric generating capacity, insufficient new capacity planned for the 1990's, and the possibility of a loss of existing older plants due to more stringent sulfur emission controls could well result in inadequate electricity capacity in the late 1990's.

The Clean Coal Program offers a means for the utility industry to bring to commercial readiness the most promising technologies that will be needed in the 1990's to meet a wide range of demand growth possibilities, including unforeseen, but significant increases. And it will provide a greater degree of environmental protection and more efficient use of our solid fossil fuels.

OUTLINE OF A FEDERAL PROGRAM

Mr. Chairman, you have raised a number of specific additional issues for me to address, and I would like to respond to each briefly:

Structure of the Federal Program

The program should be structured to provide competition among private sector participants, to encourage a diversity of technologies, and to insure the most efficient use of limited public sector monies. In the long run, the fine points of program structure and management are not as critical as is the support for the basic goals and objectives of the Clean Coal Program by the Administration. I would hope that this committee and industry can continue to work with the DOE to convince it of the clear need for an aggressive national effort toward commercialization of clean coal technologies.

Size of the Federal Investment

Appropriating funds for a new program during a time of federal budget constraints is not easy. However, the existence of the deficit should not be used as an excuse for the federal government to ignore the energy and environmental benefits to the nation of the Clean Coal Technology Program. The appropriation for the program will be the result of a number of complex considerations. In balancing these considerations, I would hope the Committee will take into account the need for a multi-year program which can bring into commercial use a number of technologies, with timing of project awards based upon the stages of development of the various technologies.

In practical terms this means that a commitment is needed to continue the effort beyond a single-year appropriation and not expose private sector sponsors to the danger of investing significant resources in project proposals only to have the program terminated in two or three years.

Comparative Evaluation of Technologies

The ERAB report pointed out the difficulty of picking "winners" and "losers" early in the program. I would suggest instead that a competition encouraging a wide range of technologies, each to maximize environmental, economic and technical performance, is the best route to select the most promising technologies for demonstration. The generic technology categories studied by ERAB and under which submissions were made to the DOE clean coal report offer a useful starting point for structuring project solicitations.

Maximum Scale of Projects Seeking Federal Involvement

The Clean Coal Program should be designed to demonstrate the technical, environmental and economic performance of commercial scale equipment and processes. This should not be a research and development effort. Unless the technologies are demonstrated at commercial scale, the value of the program to utilities wishing to replicate the projects is diminished. ERAB specifically recommended that the DOE broaden its focus beyond the proof of concept stage that is currently the thrust of DOE coal R&D.

Federal Incentives Needed to Attract Private Investment

Federal incentives should be flexible to accommodate a diversity of corporate financial situations. In some instances cost sharing of capital investment will be necessary. In others, operating subsidies will be required. A mix of the two may be required elsewhere. Cost sharing should be sufficient to assure that private participants are fully committed to projects, while at the same time reducing private financial risk to a level acceptable to stockholders and public utility commissions.

The Department of Energy contends that the decisions on commercialization of clean coal technologies are best left to the free market and that federal incentives may be counterproductive by interfering in the marketplace.

The fundamental flaw in this logic is that the Nation's electric utilities do not operate in a perfect free market environment. Revenues are regulated by public utility commissions. Utilities face an uncertain, but likely more stringent environmental future. And the "market forces" that are discernible say, "take no risk", "defer action".

Yet the generating capacity of the 1990's -- using advanced, more efficient, cleaner technologies -- should be on the drawing boards and under construction today. However, until those technologies are commercially proven in a public-private program of shared risks and benefits, this will not happen.

Mr. Chairman, I believe that the need for the Clean Coal Program is clear. The potential benefits are substantial. And the sharing of risk between the public and private sectors is the key to assuring the most productive use of federal funds to achieve a critical national purpose.

Thank you.

Senator McClure. Gentlemen, thank you very much. We have a very limited time for questions and I will make mine very brief.

I need to make one parenthetical statement at the beginning with respect to what the MMS Department of the Interior study said about the locatability or the recoverability or potential for recovery of oil. I think it has been widely misunderstood as to what that report said and, therefore, some clarification may be needed.

They said when you apply current and projected economics and an economic test to drilling opportunity, there will be less drilling and, therefore, less recovered.

I have to contrast the difference between opportunity costs when you have $35 a barrel oil and are anticipating $90 a barrel oil and the opportunity costs when you have $25 a barrel oil and people say it is continuing to decline. That is what the MMS survey said in the current and projected climate there will be less oil discovered.

But the fundamental question, regardless of what it said, the fundamental question of how do we meet our energy needs remains the same and the validity of that report, even when appropriately interpreted, still says the same thing, we need to find economically achievable alternatives to the oil that at best will not be recovered because of the economics.

I hope we remember that, too, when we are looking at the tax bill that is coming up and what that will do to economic opportunity costs for the recovery of oil.

Just a couple of questions. I noticed in attachment figure 1B on your statement, Mr. Balzhiser, which indicates that the technologies that we are looking at today, the ones that we are using today if fully applied and with new technology to be applied and even with retrofit for acid rain will get large reductions in SO_2 emissions, but even with retrofit you get large increases in NO_x emissions. Is that correct? Do I read those tables correctly?

Mr. Balzhiser. Yes, sir; and let me explain very briefly, if I could, what is happening here.

It is our belief that if the retrofit requirements as proposed in several pieces of legislation that could have, in our judgment, price tags of $5 to $10 billion a year, perhaps a total of $200 billion would in effect delay significantly the advancement to the commercialization stage of the kind of truly clean fuel technologies we are talking about here. So that rather than having the possibility of deploying them in the early to mid 1990's it would be very much delayed.

What would happen is that scrubbers would be used to comply with mandated retrofits that as capacity requirements grew the SO_2 emissions then would continue to grow from the depressed point that would be achieved by the initial reduction. That is the basis of what is happening in that picture and we would be happy to go into it in any amount of detail with you or your staff that you would like.

Senator McClure. Do the new technologies toward which the clean coal technology is directed and the submissions that have been made so far address the question of NO_x emissions as effectively as they do SO_2 emissions?

Mr. Balzhiser. Perhaps more effectively. The kind of technologies we are talking about because of the reduced combustion temperature permit us to control NO_x to very low levels, yes.

Senator McClure. Which leads me to the next question. Mr. Kuhn's testimony has in it on page 6 a table of emissions control potential. SO_2 removal is stated in percentage of removal and NO_x is stated in absolute terms rather than percentages.

If I understand the situation correctly, it is that SO_2 is the result of materials included in the fuel and NO_x is the result of combustion processes; is that correct?

Mr. Kuhn. That is correct.

Senator McClure. And, therefore, the higher the temperature and the higher the NO_x emissions and the lower the temperature it has the potential to lower the NO_x emissions because NO_x formation is partially a function of temperature; is that correct?

Mr. KUHN. Yes, sir.

Senator MCCLURE. Mr. Koleda, you make a very good point, an excellent point when you say that the free market says don't take the risk, and that is in the current regulatory climate. Is there a potential for changing the climate as a partial solution?

Mr. KOLEDA. Well, to the extent that that problem is a problem of the climate, then changing the climate to some extent would, yes. I think, and others here would want to perhaps comment on this as well, but the public——

Senator MCCLURE. And maybe I should interject here. When I say changing the climate, I am not talking about the greenhouse effect or things of that nature. [Laughter.]

I am talking of regulatory climate.

Mr. KOLEDA. We would like not to talk about that.

Senator MCCLURE. Yes; I know. [Laughter.]

Mr. KOLEDA. Well, if you are referring here perhaps to the public utility commissions, for example——

Senator MCCLURE. Yes.

Mr. KOLEDA [continuing]. Certainly their attitude toward the introduction of new technologies would be a critical factor in the speed with which they might be introduced, their handling of these investments.

Senator MCCLURE. I think everyone who knows me at all would know that I am not a Federal interventionist, but I think we have a much broader problem in the utility industry today than is widely recognized. The Committee on Energy and Natural Resources will have hearings on that question later this year and regulatory climate is a part of it.

Somehow we have to deal with those questions of why it is under current regulations the utility industry finds itself incapable or unwilling to take risk. Maybe we should share the risk by Federal investment and maybe we should reduce the risk by changing the regulatory climate.

Senator BYRD. I don't have any questions just now. I assume that their complete statements will appear in the record.

Senator MCCLURE. Yes, sir; and we may have some questions to submit to you gentlemen in writing and we don't mean to burden you. We appreciate your appearance and testimony here today. But we do want to develop a good record and your expertise is very much sought after by this committee.

Thank you gentlemen very much.

Mr. KOLEDA. Thank you.

Mr. BALZHISER. Thank you.

Mr. KUHN. Thank you.

Mr. WEBB. Thank you.

Mr. REICHL. Thank you.

STATEMENT OF RICHARD E. DISBROW, PRESIDENT, AMERICAN ELECTRIC POWER CO., INC., ON BEHALF OF THE CLEAN COAL TECHNOLOGY COALITION

Senator McClure. Mr. Richard Disbrow, president of American Electric Power for the Clean Coal Technology Coalition.

Mr. Disbrow, if you have copies of your statement, if you will hand them to the staff we will make the distribution.

As you know, we are under very constrained time this morning and we have a long list of witnesses. I think each of you have been requested to summarize as best possible and your entire statement will be made a part of the record.

Mr. Disbrow. Thank you, sir. I will be brief.

Mr. Chairman and Senator Byrd, thank you for the opportunity to appear before you today to urge Federal support and funding of clean coal technology.

I am the president of American Electric Power Co., Inc., a public utility holding company which through its operating subsidiaries supplies electric energy to portions of seven Midwest States.

The AP system relies heavily on coal as a prime energy resource currently between 40 and 50 million tons of coal annually. We are also substantial miners of coal. The company subsidiaries mined 13.5 million tons of coal in 1984.

I appear before you today representing the Clean Coal Technology Coalition. The coalition is an ad hoc group of utilities, equipment suppliers, coal companies, architect/engineering and construction firms, and the National Coal Association.

Coal represents a major domestic resource upon which we can base the Nation's energy future and move toward energy independence. Our Nation will need more and not less energy in the future and coal can assume an increasing share of these future needs if we can learn to use it more efficiently and in a more environmentally acceptable manner.

Those twin objectives can only be realized through intensified research. Technological development takes imagination, it takes time and importantly it takes funding. Research must be moved from the laboratory to the pilot stage and through demonstration projects before it can be employed commercially.

If we are to be ready by the mid-1990's to make coal the backbone of future electric energy supply, we must embark now on intensive clean coal technology commercial demonstration.

The private sector cannot mount the needed programs alone. The funds simply are not available. Participation of the Federal Government with the private sector is essential in getting the job done. Without Federal funding the commercial demonstrations of promising technologies and other important clean coal projects will be slowed or left undone.

It is important that cost-effective clean coal technologies become commercially viable by the mid-1990's to support the next generation of electric generating facilities. Availability, reliability, and cost of electric energy are important to every sector of our economy. Electric energy powers our economy and the control of cost of electric energy to American industry can help in making domestic industry more competitive in the international marketplace and that translates to jobs for American workers. We cannot leave the job of clean coal technology research undone.

The coalition recognizes the difficult choices faced by the Congress in attempting to narrow the budget deficit, but the sacrifice of research and development, such as clean coal technology would be unfortunate indeed.

Too often we hear that American industry, unlike foreign competitors, curtails R&D for short-term expediency at the sacrifice of tomorrow's competitiveness. We as a Nation simply can no longer accept that, and here in this instance Congress can assume a leadership role.

In its report to the Congress on emerging clean coal technologies dated May 1985 DOE took the position that Government funding was not needed to transfer new technologies to the private sector and to assure commercialization.

However, a contrary view is expressed by the Energy Research Advisory Board and DOE's own panel of outside energy research experts. The panel found, and I quote "In most instances the current policy of abandoning a development after proof of concept has been established will result in just that, abandonment." We agree with the Energy Research Advisory Board.

Clean coal technology research serves an important national interest and we believe it deserves Federal participation through the demonstration project phase, and we look forward to your favorable consideration of clean coal technology funding.

PREPARED STATEMENT

I thank you for your attention and I have a longer statement which I hope will be included in the record.

Senator McCLURE. Thank you very much. The longer statement will be included in the record.

I have no questions.

Senator Byrd?

Senator BYRD. No questions. Thank you.

Senator McCLURE. Thank you very much for your appearance and testimony.

[The statement follows:]

STATEMENT OF RICHARD E. DISBROW

INTRODUCTION:

Mr. Chairman, Members of the Subcommittee, my name is Richard E. Disbrow. I am President of American Electric Power Company, Inc., a public utility holding company whose operating company subsidiaries provide electric energy to portions of seven states in the midwest. The AEP System is among the largest users of coal in the production of electric energy in this nation. Currently approximately 90% of all electric energy we produce is from coal-fired generation. As a function of economic levels, the System will burn between 40 and 45 million tons of coal annually. We are also miners of coal. In 1984, coal mining subsidiaries of the operating utilities produced 13.5 million tons of coal for use in our generating stations.

Our commitment to coal as a source of primary energy spans eight decades. Over that interval, through our research and development efforts and those of others, we have learned to burn coal more efficiently and, of late, have committed to the development and utilization of advanced coal cleaning at significant expense. Washed coal now represents the majority of our annual usage. But more must be done.

Coal represents a vast domestic energy resource; a resource which can play an expanding role in this nation's energy future if we can learn to use it in a more efficient and environmentally acceptable manner. Coal affords us the opportunity to move toward energy independence. There are many promising prospects which must be carefully explored. But technological development takes both time and money to move from the laboratory through the pilot stage to the demonstration project before full-scale commercial implementation.

It is clearly in the national interest that clean coal technology be developed as rapidly as possible and a sharing of funding between the federal government and the private sector is essential to that effort. Without federal assistance, the spectrum of clean coal technology demonstrations will be narrowed and the development line toward commercial projects lengthened.

THE CLEAN COAL TECHNOLOGY COALITION:

I am appearing before your Subcommittee as a member of the Clean Coal Technology Coalition, an ad hoc group of utilities, equipment suppliers, coal companies and architect engineering and construction firms and the National Coal Association. I ask that the membership of our group, along with a copy of the Coalition's statement in support of the clean coal program, be included in the hearing record at the conclusion of my remarks.

The Clean Coal Technology Coalition was organized earlier this year to provide a means by which interested private and public sector parties might communicate to Congress and the Administration a collective viewpoint in support of the clean coal technology development program. Thus, no matter what interest an individual company or state government might have in obtaining government assistance for a particular technology or project, we have joined together in the hope of demonstrating to Congress that varied private and public entities support the need for a federally-assisted clean coal technology development program. Our interest as a coalition is to promote the rapid implementation and funding of a program which we believe makes emminently good sense.

On behalf of the member companies, industry associations and state governments associated with the Clean Coal Technology Coalition, I want to thank you for this opportunity to comment on the need for the program. Also, as you requested, Mr. Chairman, I intend to comment on the Department of Energy's recently submitted report to the Congress which addresses those proposals and statements of interest that were submitted to the DOE last February as a result of a Department of Energy solicitation directed by provisions of Public Law 98-473.

We do not agree with the Department's conclusion that "Federal incentives will not accelerate commercialization of these [clean coal] technologies and may be counterproductive to their development." (See page 1-4 of the Report to Congress on Emerging Clean Coal Technologies. May 1985.) The DOE states in the report that this conclusion was reached based upon "the Department's previous experiences with Federal incentives." According to the Department, most projects that have received Federal assistance in the past have not led to successful commercialization of new fossil technologies. We believe the Exxon Donor Solvent project, the Cool Water gasification/combined cycle project and the TVA fluidized bed combustion project are examples of just the opposite conclusion. Federal government participation has accelerated development and will greatly assist the private sector participants in providing the experience required for near-term widespread application of this technology in utility settings.

Ironically, perhaps, on the same day that the Department transmitted its clean coal report to the Congress, the Energy Research Advisory Board (ERAB), DOE's own panel of outside energy research experts, adopted a report to the Secretary of Energy which states in part:

> "Within the clean use of coal area the overall DOE program is well dispersed and all major technological areas are covered in some way. However, the budget does not allow DOE to help with the transfer of the new technologies to the private sector and

> to assure their commercialization. This is the result of basic policy which should be reconsidered.
>
> *In most instances, the current policy of abandoning a development after Proof of Concept has been established will result in just that, abandonment*." (Page 19, emphasis added.)

The current DOE policy is to stop government involvement in technology development before the demonstration or process development stage (see Chart 1). The conclusions reached by the Department in the clean coal report simply reflect and restate this policy notwithstanding the contrary advice given by the government's own panel of outside experts.

Industry's response to the recent DOE solicitation, in which 175 submittals were made, including 159 submissions proposing specific emerging clean coal technology projects in 29 states, also evidences a view contrary to the DOE's conclusion. The private sector will proceed with, and not abandon, clean coal technology development if government support is provided to complement very substantial private sector cost-sharing. The willingness of industry to provide significant amounts of private funds, often equaling or exceeding fifty percent of the projected cost of the project, strongly evidences a commitment to projects and technologies.

Any lack of success in commercializing new fossil technologies with respect to prior DOE assisted technology development projects cannot and should not be solely attributed to DOE involvement as the Department's clean coal report suggests. If such a conclusion has validity, then the solution is to fashion a government/private sector partnership rather than to conclude that commercialization has been unsuccessful whenever the government gets involved. As the ERAB report suggests, the alternative is equally unappealing, that is, technologies will be abandoned if government assistance beyond research and development is not provided.

THE NEED FOR NEW COAL UTILIZATION TECHNOLOGIES:

The need to develop new coal utilization technologies is premised upon two related factors. First, new electrical generation, not currently planned or under construction, will be needed in the 1990's to replace aging facilities, to reduce dependence upon oil- and gas-fired power generation and to ensure that economic growth is not stymied for lack of adequate electrical generating capacity. Secondly, the continued or expanded use of coal will be dependent, in part, upon the development of new technologies which offer cost-effective means of producing electricity or providing energy for industrial use in an environmentally acceptable manner.

I. NEED FOR NEW ELECTRICAL CAPACITY

Projecting future electricity demand has been particularly difficult and controversial for many utility planners and outside analysts who have projected growth of electricity demand ranging from less than one percent to about five percent annually over the next 10 to 15 years. The Edison Electric Institute, recognizing these widely varying projections, states in its recently published report on nuclear power: "It is possible that the additional generating capacity needed by the year 2000 could be as little as a few million kilowatts and as much as 500 million kilowatts -- or about three quarters of today's installed capacity." (At page 17, Report of the Edison Electric Institute on Nuclear Power, February 1985.) These wide differences in projected future demand result, in part, from unknown factors about economic growth and the future use of electricity. Furthermore, other significant unknowns include possible additional environmental legislation and regulation which might impact the continued service of existing units, further nuclear deferments, oil supply interruptions, the yet-to-be-proven ability to concurrently increase both the availability and life of existing capacity and the success of further conservation, load management efforts and other demand-reducing programs.

There is general consensus that new capacity will be needed even though the rate of increased demand is not agreed upon. The electric utility industry through the projections of individual companies aggregated by the North American Electric Reliability Council is projecting growth in electricity demand of 2.5 percent annually through 1993.

According to the Edison Electric Institute:

> "With demand growth of 2.5 percent and a capacity margin of 20 percent, additional capacity is needed by 1992 and a total of 152 million kilowatts of new capacity or demand reductions will be needed by the year 2000. Of this need, 34 million kilowatts of capacity have been reported to North American Electric Reliability Council as planned but not under construction.
>
> In the present economic and regulatory environment, some of the nuclear units now under construction may not be completed or permitted to operate. For example, if 8 million kilowatts of the capacity under construction are cancelled and if one third of the units over 40 years are retired, the capacity needed by the year 2000 would total 192 million kilowatts with demand growth of 2.5 percent." (Report of the

Edison Electric Institute on Nuclear Power, February 1985, at page 20.)

The EEI has concluded that "100 to 200 million kilowatts of new generating capacity will be needed -- in addition to units still under construction today -- before the year 2000." Attached to this statement are chart 2, which depicts U.S. electric generating capacity and peak demand between 1984 and 2000 and chart 3, which depicts U.S. electric generating capacity and peak demand with possible cancellations and retirements between 1984 and 2000. Each chart attempts to display how different projected growth scenarios will impact upon electricity capacity. If, for example, a demand growth rate of 2.5 percent is achieved then sometime in the early 1990's peak electricity demand is expected to exceed installed capacity and some new capacity above what is already planned will be required.

Current trends and the recent history of the utility industry strongly suggest that new capacity may not be built in time to meet increased demand. If, for example, the projected capacity needs of the mid-1990's are to be met with conventional generating units we believe that it takes from 9 to 10 years to permit, design, construct and place in service, utilities must undertake those new power plants now. That construction is not being undertaken and, in fact, the electric utility industry is entering a period in which relatively little new generating capacity will be under construction and many companies have completed or will soon complete building programs. Further, many utilities, which only recently were forced to cancel or abandon the construction of large base load facilities, including conventional coal-fired power plants, are not now likely to undertake major new construction programs. Also, it is projected that new demand and, therefore, new capacity requirements for many utilities will come in much smaller increments which do not warrant construction of large scale conventional power plants. And, finally, because the growth of electricity demand has slowed considerably, so that electricity growth in proportion to the growth of the economy, any miscalculations by utility planners in projecting demand could result in excess capacity being built. The cost of such capacity cannot be easily recovered when there is no longer the periods of rapid growth which once characterized the utility industry and ensured that excess capacity would be quickly utilized. In fact, regulatory commissions have little sympathy toward allowing the recovery of investments for capacity built in excess of real demand and have, in some instances, forbidden the recovery of new, excess installed generation. These and other circumstances cause considerable uncertainty within the electric utility industry and this uncertainty simply means that utility executives will be ever more cautious in adding capacity.

There appears, therefore, to be little impetus and even less time in which to address the electricity needs of the 1990's. If new clean coal technologies are to be utilized to meet expected capacity demands during the mid- to late 1990's, those technologies must be commercially demonstrated and available in the 1990 to 1993 time frame. It takes approximately 3 to 4 years to design and build a commercial demonstration and 2 years to conduct testing. Therefore, to be available in the early 1990's these clean coal technology demonstrations must be initiated in the 1985-1988 time frame. That time frame is already upon us. The next ten years are very important in both assuring future environmentally acceptable electricity supply and in controlling the costs of electricity. The commercial demonstration of clean coal technologies is at least one important option which the country would be wise to pursue in planning for ways to meet increased demand.

II. NEED TO DEVELOP COST-EFFECTIVE COAL UTILIZATION TECHNOLOGIES WHICH ENSURE CONTROL OF EMISSIONS

The important goal of protecting the environment and minimizing sulfur dioxide, nitrogen oxide and particulate emissions which result from the combustion of an inherently dirty fuel might be achieved in a number of ways. To date, industry has responded to regulatory controls by fuel switching, by pre-combustion coal cleaning, and by installing post-combustion pollution control devices. Conventional coal-fired power plants can comply with current and proposed environmental requirements, but the dollar costs are high. To put these costs in perspective, the cost to retrofit a flue gas desulfurization system to a 10-year-old power plant can exceed the original investment in the facility. Also, approximately 40 percent of the capital investment and 30 percent of the total cost of power for new, coal-fired power plants are related to environmental control. Finally, the use of flue gas desulfurization technology and other pollution control devices has a major impact on the efficiency and reliability of coal-fired power plants.

As the demand for coal-fired power production increases, the current requirements for emission limitations will continue or these emission limits might be made more stringent by new legislation or regulation. The resulting costs associated with protection of the environment are a large and growing percentage of the cost of each kilowatt generated. It is important to understand that if the public demands even more stringent requirements for greater protection of the environment, the cost of compliance will take utility dollars away from clean coal technology development projects. For example, the Electric Power Research Institute has testified before the Congress that proposed acid rain control legislation that would require retrofitting flue gas desulfurization equipment on up to 100,000 megawatts of existing power plants burning high sulfur coal would cost approximately $200 billion over the remaining life of the plants in question. If these requirements were imposed, utilities would have no choice but to expend limited funds to comply with new regulations.

Another option to assuring protection of the environment besides simply promulgating additional regulations is to encourage the timely development of clean coal technologies. These new coal utilization technologies, besides assuring compliance with emission controls, also promise more cost-effective generation of electricity from a greater variety of coal resources. An opportunity for the timely development of these technologies should be provided.

Much has been written about the development and potential of new coal utilization technologies. Charts 4, 5 and 6, which are attached to this testimony, attempt to describe the variety of technological options which are currently being pursued. These emission control options range from improved physical coal cleaning to furnace sorbent injection (e.g. LIMB), improved methods of combustion and advanced scrubbing technologies. Importantly, these technologies promise very significant improvements in the control of emissions from the use of coal. Chart 6 attempts to depict the possible advances in emission control likely to result from development of these various technologies. Further, a number of these clean coal technologies offer control of both sulfur dioxide and nitrogen oxide emissions, shorter construction lead times, improved fuel conversion efficiency, an ability to burn a wider variety of coals and the opportunity to construct power plants in modules which better match capacity additions to anticipated increased demand.

Pending legislation calling for emission reductions from existing power plants make the problem of timely development of clean coal technologies even more acute. Compliance dates between 1990 and 1995 require that new retrofit technologies be available for use in existing plants in the 1987-1990 time frame. Given this time frame, the commercial demonstration of technologies which can be used in retrofitting existing plants must be conducted over the next three years. Otherwise, this option for compliance might not be available.

It should be emphasized that no single clean coal technology is now thought to satisfy the variety of existing or projected coal-fired utility or industrial power generation requirements. All of those technology options which are mature and ready for commercial-scale demonstration should be considered likely candidates for the clean coal technology development program.

FACTORS WHICH INHIBIT PRIVATE SECTOR DEVELOPMENT OF CLEAN COAL TECHNOLOGIES:

The principal user industry of new clean coal technologies will be the electric utility industry. This industry is constrained in the amount of effort that can be directed toward large-scale, high-risk demonstration projects. This constraint is principally a function of the fact that the utility industry does not operate in a free marketplace. Return on an electric utility's investment is governed by public utility commissions that are generally charged with the task of minimizing ratepayer costs; risks undertaken by utilities in clean coal technology development will not necessarily be reflected in allowed profits or rewards. Indeed, if failure occurs, the burden may be placed primarily upon the shareholders of a utility and not the ratepayers. At a minimum, the costs involved in constructing a clean coal project, unless somehow characterized as research and development, must be carried by the utility until that time when the plant is placed into service. This burden of carrying construction costs when added to the prospect that the facility might not be reliably placed into service at all creates too great a financial exposure for many utilities.

Furthermore, many utilities still face severe financial problems and cannot even raise capital funds for improvement or expansion of existing or new conventional electric power generation. This circumstance makes funding high risk clean coal technology development projects even more difficult.

Coal companies and utility equipment suppliers are also not able to bear the burden alone of significant investments in new technology development. Given the possibility that the domestic power generation market may be very limited for some time to come, such entities are reluctant to contribute substantial dollars to the costly demonstration of new clean coal technologies when the returns on their investments may be very limited.

A final factor which inhibits private sector development of new clean coal technologies is that once the demonstration stage of technology development is reached, enormous expenditures for engineering, construction, manufacturing, capital formation and operation are required. A new, "greenfields" clean coal technology project may require 5 to 6 years to design and construct and test. The exposure to project participants during the construction and demonstration phase which may result from changes in government policy or any number of other unanticipated occurrences can be so great as to result in utilities and other interested parties simply refusing to take significant risks. In addition, major modifications to the technology may be required after start-up, thus necessitating the expenditure of additional capital.

The Clean Coal Technology Coalition agrees with the DOE that the private marketplace should be responsible for the widespread commercialization of new clean coal technologies. However, the normal cycle of development which generally provides the private sector with sufficient time to commercialize a technology has been significantly disrupted. The private marketplace is currently faced with a dramatically changing picture in which the supply of electricity, now in surplus, may soon be outstripped by demand. Further regulations or new legislation may require costly modifications to existing facilities or more costly generation from any newly-constructed conventional power plants.

These changes, some of which may be imposed by government, necessitate a program of parallel government assistance like that envisioned by the clean coal program so as to assure timely development of technologies which may prove useful in cost effectively addressing these changes. Thus, in order to accelerate the commercialization of clean coal technologies and, in some instances, to ensure that the technology is not abandoned after the research and development stage, some sharing of the costs by the federal government is highly desirable. For its part the private sector is willing to provide very significant private monies toward the demonstration of new, high risk technologies. The federal government is being asked to participate with the private sector in the commercial demonstration phase by also sharing a portion of the costs of new technology development.

THE ROLE OF THE FEDERAL GOVERNMENT IN THE DEVELOPMENT OF CLEAN COAL TECHNOLOGIES:

The clean coal technology development program envisions a partnership between the federal government and the private sector. This relationship is justified if the public receives benefits for the public funds sought to be expended.

Although it is possible that some technologies which could be supported by the clean coal program may never be commercialized, the fact that the private sector will be required to provide a large portion of the funds for a project increases the likelihood that early commercialization will occur. Therefore, an important public benefit is that this clean coal program is designed to provide the greatest assurance that these technologies, once demonstrated with the assistance of public funds, are likely to then be used in widespread near term commercial applications.

Accelerated commercial demonstration is also very important if the Nation is to receive the benefit of new technologies when the need for new capacity arises in the 1990's. Early and widespread application of new coal utilization technologies which are less costly than current alternatives, which can be constructed and brought on line more quickly than current alternatives and which can be constructed in smaller -- even modular -- units to more nearly meet current demand requirements, are all benefits to be received by the public from successful implementation of the program. Also, technologies that might enable retrofitting of existing power plants to reduce or better control emissions and/or increase efficiency could also be demonstrated under the clean coal program.

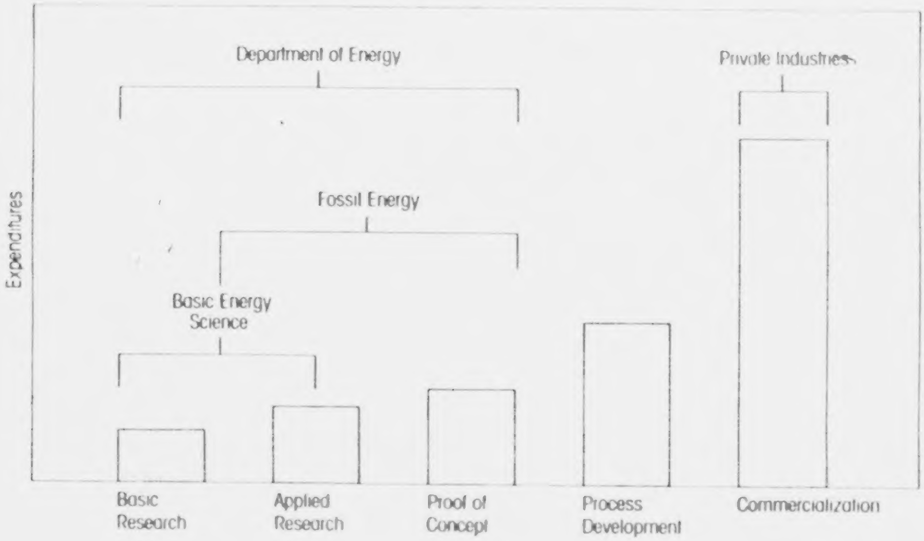
The public benefits of early commercialization of clean coal technologies, which include the promise of better environmental protection, more cost-effective production of electricity and more efficient use of our coal resources, are compelling reasons to implement the clean coal technology program rapidly.

CONCLUSION

Mr. Chairman, on behalf of the Coalition, we applaud your interest and leadership in this important program. We have an opportunity to create a unique partnership between the government and the private sector. The marketplace has identified the technologies to be commercialized; the private sector is ready to commit very substantial funds to these projects; and our members are willing to put their projects into the competitive arena.

From the point of view of the Clean Coal Technology Coalition, we would encourage rapid implementation and sufficient first-year funding to ensure that industry will aggressively participate in this program.

CHART 1
Technology Development Path



The Technology Development Path

These Steps Are Defined Briefly as Follows

Basic Research:

Studies Directed Towards Development of Fundamental Scientific Knowledge Leading to the Definition of New Energy R&D Concepts;

Applied Research:

Activities to Resolve Broad Engineering and Physical Science Problems in Specific Fossil Technologies and Related Areas, However Practical Utility May Not Be Proven At This Stage;

Proof of Concept:

Development to Resolve Specific Problems to Determine the Technical and Environmental Feasibility of the Integrated Process. Data is Generated to Evaluate Critical Scale-Up Parameters, Characterize Sub-Systems, Processes, and Products, and to Permit Preliminary Economic Projections to be Made;

Process Development:

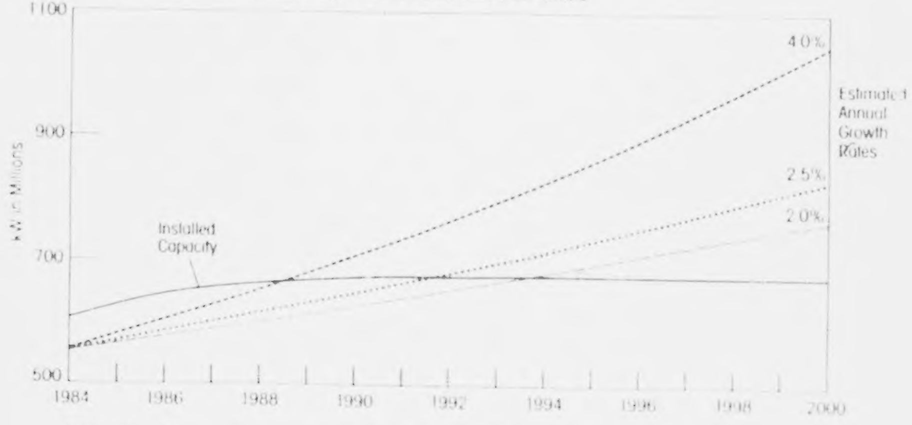
Increasingly Larger Scale Engineering Design, Construction and Operation of Energy Systems With the Objective of Reducing Technical Risks and Improving the Process Operability, Reliability, Economics, and Environmental Impact;

Commercialization:

Wide Variety of Efforts to Eliminate Technical, Economic and Institutional Barriers Required for Acceptance of a New Energy Technology into the Marketplace.

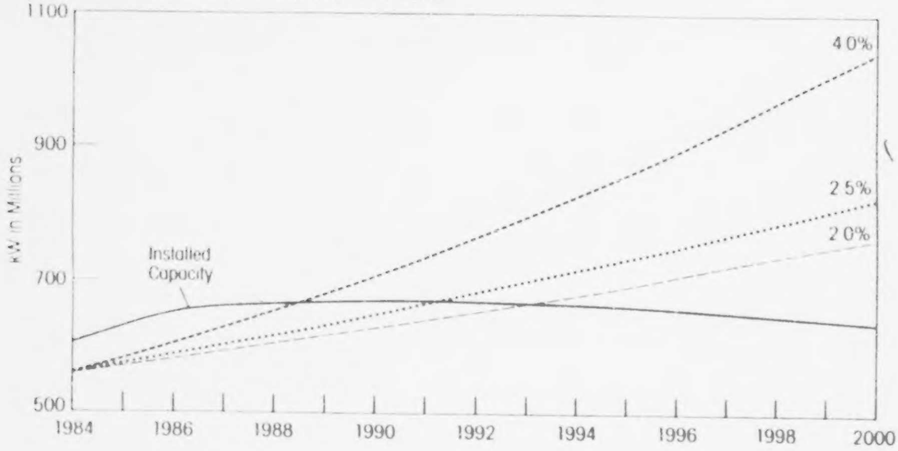
CHART 2

U.S. Electric Generating Capacity and Peak Demand, 1984-2000



Note: Peak demand at stated growth rates with 20% capacity margin needed for dependable supply. Includes existing capacity and capacity under [illegible] of 15 million kilowatts through 1993 as reported to NERC.

CHART 3
U.S. Electric Generating Capacity and Peak Demand With Possible Cancellations and Retirements 1984-2000



Note: Peak demand at stated growth rates with 20% capacity margin needed for dependable supply. Includes existing capacity less retirements reported to NERC and assumed retirements after 1993, and capacity under construction less assumed cancellations.

CHART 4
Coal Utilization

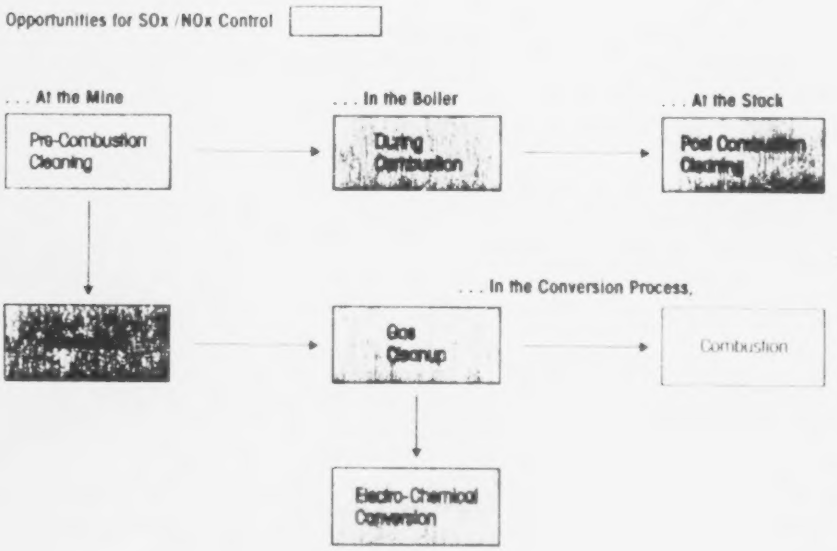
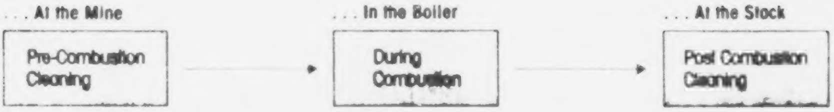

Opportunities for SOx /NOx Control
. . . At the Mine
. . . In the Boiler
. . . At the Stack
Pre-Combustion Cleaning
During Combustion
Post Combustion Cleaning
. . . In the Conversion Process,
Gas Cleanup
Combustion
Electro-Chemical Conversion

CHART 5
Coal Utilization

Opportunities for SOx /NOx Control


. . . At the Mine
Pre-Combustion Cleaning
. . . In the Boiler
During Combustion
. . . At the Stack
Post Combustion Cleaning

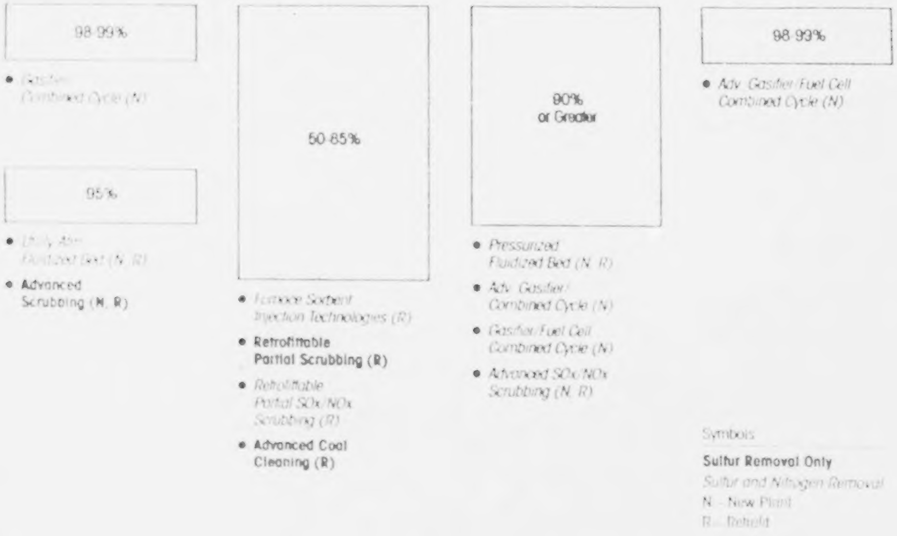
- Fine Grinding
- Dewatering (Low rank coals)
- Physical Cleaning
  and/or
- Chemical Cleaning

- Reconstitution
- Atmospheric Fluidized Bed
- Pressurized Fluidized Bed
- Low-NOx Combustors
- Slagging Combustors

- Furnace Sorbent Injection Technologies
- Flue Gas Desulfurization (Scrubbers)
- Advanced SOx /NOx Scrubbing

(Integrated Gasification Combined Cycle and Magnetohydrodynamics offer similar SOx /NOx control opportunities with differing techniques.)

CHART 6
Emerging Technologies for SO_2/NOx Removal Potential


98-99%
Gasifier Combined Cycle (N)
95%
Utility Atm. Fluidized Bed (N, R)
Advanced Scrubbing (N, R)
50-85%
Furnace Sorbent Injection Technologies (R)
Retrofittable Partial Scrubbing (R)
Retrofittable Partial SOx/NOx Scrubbing (R)
Advanced Coal Cleaning (R)
90% or Greater
Pressurized Fluidized Bed (N, R)
Adv. Gasifier/Combined Cycle (N)
Gasifier/Fuel Cell Combined Cycle (N)
Advanced SOx/NOx Scrubbing (N, R)
98-99%
Adv. Gasifier/Fuel Cell Combined Cycle (N)
Symbols
Sulfur Removal Only
Sulfur and Nitrogen Removal
N - New Plant
R - Retrofit

Statement of Support for the Clean Coal Program

The Clean Coal Technology Coalition supports the timely implementation and funding of a clean coal program which will result in the demonstration of technologies that use coal in an environmentally acceptable manner, at reasonable cost and which will operate reliably in utility systems and in large industrial applications.

Clean coal technologies must be demonstrated at or near commercial scale before they will have the confidence of the electric utilities industry and the agencies which regulate it. Most of these emerging technologies are not yet sufficiently advanced to have gained this acceptance. A regulated utility acting alone is constrained in its ability to support new technologies. Current regulatory policies impede the incorporation into the rate base of the research and development expenses associated with the commercialization of clean coal technologies. This requires utility companies to shoulder significant financial burdens. The Clean Coal Technology Reserve created by Congress in Public Law 98-473 would provide the stimulus necessary to assure the earliest practicable commercial availability of these emerging technologies.

The private industry/government partnership created by the Clean Coal Program is the least costly and most effective course the United States can pursue to ensure environmentally and economically acceptable use of our most abundant fossil energy resource. Furthermore, successful commercialization of clean coal technologies will significantly advance the national goals of utilizing this immense domestic energy resource in an environmentally acceptable manner, while providing electric utility customers and industrial users of coal with a more secure energy supply at reasonable prices.

CLEAN COAL TECHNOLOGY COALITION
Membership - May 14, 1985

Babcock & Wilcox
1735 Eye Street, N.W.
Suite 814
Washington, D.C. 20006

Southern Company Services
1101 17th Street, N.W.
Suite 405
Washington, D.C. 20036

Transamerica Delaval
8181 Professional Place
Suite 116
Landover, Maryland 20785

Peabody Holding Company, Inc.
1120 20th Street, N.W.
Suite 720
Washington, D.C. 20036

Public Service Co. of Indiana
1920 N Street, N.W.
Washington, D.C. 20036

Southern California Edison
1111 19th Street, N.W.
Suite 303
Washington, D.C. 20036

Florida Power & Light Company
1111 19th Street, N.W.
Suite 1102
Washington, D.C. 20036

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Baltimore Gas & Electric Company
1100 Connecticut Avenue, N.W.
Suite 530
Washington, D.C. 20036

MEI Systems Inc.
3121 West Spencer Street
Appleton, Wisconsin 54914

Cannelton Industries, Inc.
1250 One Valley Square
Charleston, West Virginia 25301-1686

Black, Sivalls & Bryson
P.O. Box 27125
Houston, Texas 77227

American Electric Power
Service Corporation
1667 K Street, N.W.
Suite 450
Washington, D.C. 20006

The Signal Companies, Inc.
2550 M Street, N.W.
Suite 600
Washington, D.C. 20037

TRW
1000 Wilson Boulevard
Suite 2600
Arlington, Virginia 22209

Duke Power Company
P.O. Box 33189
Charlotte, North Carolina 28242

National Coal Association
1130 17th Street, N.W.
Washington, D.C. 20036

General Electric Corporation
National Place, Suite 895
1331 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

Consolidation Coal Company
1701 Pennsylvania Avenue, N.W.
Suite 900
Washington, D.C. 20006

Public Service Gas & Electric Co.
80 Park Plaza
Newark, New Jersey 07101

Stone & Webster Engineering
1875 Eye Street, N.W.
Suite 550
Washington, D.C. 20006

Winchester Coals, Inc.
1210 Smith Street
Charleston, West Virginia 25301

STATEMENTS OF:

DR. JOHN W. JUTILA, VICE PRESIDENT FOR RESEARCH AND PROFESSOR OF MICROBIOLOGY, MONTANA STATE UNIVERSITY

DR. RONALD J. PUGMIRE, ASSOCIATE VICE PRESIDENT FOR RESEARCH AND PROFESSOR OF FUELS ENGINEERING, UNIVERSITY OF UTAH

Senator McClure. Dr. John Jutila.

Again, if you will hand the staff copies of the statement so they can be distributed please.

Mr. Jutila. For the record, I am Dr. John Jutila, vice president for research at Montana State University.

With the subcommittee's approval, I would like to yield to my colleague, Dr. Ron Pugmire, who will present the subcommittee with a synopsis of a prepared joint statement that the two of us have put together.

Senator McClure. That is very satisfactory. Thank you. Please proceed.

Mr. Pugmire. Mr. Chairman, it is a pleasure to be here at your invitation to address the issue of clean coal technology. Dr. Jutila and I are representing the universities in the intermountain area. We recently were asked to participate in a workshop regarding clean coal technology that was organized by one of the national laboratories in the area and we come here representing some of the thoughts and the initiatives that derived from that.

We find, Mr. Chairman, that in the present climate in the United States there has been a pause in the critical need we felt in the energy crisis in the seventies and the early eighties. We see that as a pause only and that the basic reasons for the crisis have not gone away. And in the interim we have the opportunity to do some significant things to protect ourselves and our energy independence in the future.

The long-term use of coal we believe is inevitable and we must prepare our Nation and prepare technologies that will take care of that projected need.

I might point out, Mr. Chairman, that one-half of all of the economically recoverable lignite and bituminous coal reserves in the United States are located in two provinces in the western United States, the Rocky Mountains and the Great Plains provinces.

The environmental issues that deal with the increased utilization of coal in the future have been delineated by those who have given testimony prior to ours, and I will not go into those any further.

The economics of retrofitting the existing coal-fired powerplants have been addressed also, and while the various estimates of what those figures are may be in question, depending on how the economic analyses were done, it is quite clear that the costs are staggering and the utility industry may not be able to bear the costs of a retrofitting operation that would adequately reduce the sulfur and ash emissions from increased coal utilization.

We believe, Mr. Chairman, that one thing that will make a major impact is the precombustion technologies that have been alluded to here, and we feel that while there is a great deal that has been done, there is a great deal of basic research that has not yet been carried out that must be handled before second generation coal combustion cleanup technologies can make it into the marketplace.

A number of the issues in this area have been addressed and thought through carefully, and let me just say that working with a national laboratory in the western United States a plan has been developed which will provide an organization to coordinate some of the regional activities that are necessary to utilize the vast coal research resources in the West to provide a program structure and research and development activities to dramatically advance state-of-the-art precombustion coal cleanup.

The organization, strategy, and technology programs needed to bring this futuristic program to fruition have been defined at this point. Programs to identify new areas of technology and to propel emerging technologies have been developed.

This plan is structured to be consistent with the DOE Fossil Energy Advanced Research and Technology Development Program. The program objectives are:

First, to aid in the development of a regional program to develop second generation technologies for precombustion coal cleanup, and by that I am referring to technologies which have been referred to as superclean coal or technologies that would reduce sulfur content to less than 1 percent in the coal and ash emissions to less than 1 percent as well.

No. 2, to provide an organizational framework through which regional universities and a national lab can collaborate on this problem.

And, No. 3, to define components of the program. This further includes the creation of policy related to clean coal, supportive research and development activities, and transfer of emerging technologies to industry.

We feel that some of the major areas that have to be addressed are more adequate characterization of the resource itself so that we can make some intelligent decisions as to which technology might best suit different types of coals, such technologies as biological desulfurization, supercritical extraction, and new energy efficient grinding and efficient flotation chemical preparation techniques that need to be explored and developed.

This is a broad-scale problem. It is a problem that is of sufficient size and magnitude that no single institution has the resources to address the breadth of the problem independently. It will take a long-term effort to succeed and a consortium effort as I have described here, Mr. Chairman, seems to make some sense in making some progress in this area.

I would be happy to answer any questions at this time. I have a more detailed prepared statement that will be entered for the record.

Senator McClure. Thank you very much.

Mr. JUTILA. Mr. Chairman, I would like to offer a strong second to the comments of Dr. Pugmire and give additional emphasis to the fact that the universities in the region who have not been named offer an unusual array of talent and expertise and facilities that have been directed toward coal research over a number of years.

In addition, the region offers unusual resources not only in terms of coal but water which would be a very important part of any kind of energy development that might take place in the region.

The underlying principle, the strategic principle that falls under the regionalizing of such a program in our view makes good sense. Now we encourage the subcommittee to react favorably to any recommendation to support clean coal technology.

Thank you.

PREPARED STATEMENT

Senator MCCLURE. Your full statement will be made part of the record at this point.

Senator Byrd?

Senator BYRD. I believe not. I must say I am finding the statements to be very interesting and to a considerably degree I think very encouraging. Because of the constraints on our time, however, I have no questions at this point, but I will be submitting some for the record.

Senator MCCLURE. Thank you, Senator Byrd.

Thank you.

[The statement follows:]

STATEMENT OF DR. RONALD J. PUGMIRE

I. INTRODUCTION

We are all familiar with the crisis atmosphere created by the Arab oil embargo in 1973 and the Iranian oil cut-off in 1979. With this crisis the government launched a massive research and development program aimed at developing alternative energy sources and fossil energy technologies.

Since 1981 the crisis period seems to have passed and we now have the choice of two paths to follow regarding alternative fossil energy resource development. The first is to once again entrust our energy future to the world marketplace and worry about any future crises when they arrive. The second path is to use the respite from an oil crisis to make the transition to a post-petroleum energy future as painless as possible by developing the expanded use of our coal resources.

The reasons for continuing efforts to utilize alternative fuels, such as coal and other fossil fuels sources, are many:

- The petroleum production capacity of the United States has not risen above the 8 to 8.5 million barrels per day plateau, in spite of a nearly 3-fold increase in oil well drilling over the past four years.

- While the recession fuel substitution and conservation efforts reduced liquid products demand from a peak of 16 million barrels per day to a low of 12 million barrels per day, the demand is again rising and is now about 15 million barrels per day.

- The curtailed consumption in the U. S. is due largely to a return to small 4 cylinder automobiles, insulation of buildings and the shutting down of high energy consuming industrial plants (the steel and copper industries and their satellites are not likely to recover), and substitution of coal for oil where feasible. These "belt tightening" efforts appear to be a one time phenomenon and may be approaching their economic limit.

- Oil and gas well-drilling efforts have brought into production many new gas (only) fields due to the incentive of the 15-fold increase in the well-head value of gas. However, in no year did the oil drilling efforts result in finding as much new oil as was used in the U.S. that year.
- Finally, there is about 20 times as much energy available from coal resources in the U.S. as either petroleum or natural gas. We need economically competitive coal-to-oil processes to control further escalation of foreign crude costs (as the world demand resumes its inexorable rise).

The U.S. possesses a huge recoverable coal resource of some 430 billion tons - representing enough energy to provide our entire energy needs for decades to come. Approximately 450 million tons of coal are consumed annually by the United States eastern regional utilities to produce over 200 GW of electricity. The direct combustion of coal has been identified as a potential major contributor to the acid rain problem. The increased use of coal for electrical production is inevitable and the Department of Energy estimates that by 1990 over 50% of all electric power generation will come from coal fired power plants. Both national and international interest has been expressed publicly and legislatively in reducing the amount of sulfur oxides emitted into the atmosphere by combustion of coal. The development of clean coal technologies is critical to the resolution of the environmental problems associated with expanded coal combustion and concomitant requirements to meet new source performance standards.

One major limitation of near-term and existing clean coal technologies is their large capital costs. A typical retrofit of a coal powered generation plant with sulfur reduction technology is estimated to cost $120 million for a 200 MW facility. This estimate is for installation of a unit based on the limestone fluidized bed removal concept. If this cost is multiplied by the approximately 300 facilities in need of advanced sulfur removal technologies, a $36 billion investment is required to achieve low atmospheric sulfur emissions. Given the current economic climate, it will be extremely difficult to rapidly impact sulfur oxide emission via retrofit of existing plants. A rapid advance in technology is required to implement sulfur oxide reduction with a minimum capital investment for the utilities. Furthermore, coal processing plants in existence today were not built to produce super clean coal and trying to retrofit these plants is costly. Therefore, a research program directly aimed at developing technological concepts for super clean coal is needed today.

Most, if not all, of the potential second generation technologies which require minimal capital investment can be described as precombustion processes. Such technologies might include biological desulfurization, super critical extraction, membrane technology, advanced coal beneficiation, and computer control of process operations.

By the year 1990, 54 percent of the total electric power production will come from coal fired power plants. Hence, research in the areas of ultrafine grinding and ultrafine coal cleaning will be required. Needless to say, computer technology must be applied to the processing of coal to increase efficiency. All of these emerging technologies require significant research and development to transform them into mature concepts which can be applied commercially.

Vast coal resources are located in the western United States. In the Rocky Mountain and Great Plains regions, comprising the states of Arizona, Colorado, Montana, New Mexico, North Dakota, South Dakota, Utah, and Wyoming, one finds approximately 50% of the recoverable bituminous and lignite coal in the U.S. This reserve base, together with a unique combination of institutional resources in the Rocky Mountain states, represents an opportunity to rapidly mobilize and develop these second generation technologies. The universities in this region--Colorado, Idaho, Montana, Utah, and Wyoming--have been historically active in coal technology development. A wealth of fundamental data and expertise on coal structure, composition, comminution, and related technology exists in these institutions. Centered both geographically and technologically among these universities is the Idaho National Engineering laboratory (INEL). Due to its long involvement with the nuclear power industry, INEL is intimately aware of the needs of electric power utilities. The coal resource and fundamental research resources of the area's universities, combined with INEL's diverse research capabilities, provide a powerful synergestic group to initiate a super-clean coal technology effort.

The goal of this effort will be to produce super-clean coals which meet the requirement of less than 1% total sulfur and an ash content of 1% or less.

A plan has been developed which will provide an organization to coordinate regional activities, a program structure, and research and development activities to dramatically advance state-of-the-art precombustion coal cleanup. The organization, strategy, and technology programs needed to bring this futuristic program to fruition have been defined. Programs to identify new areas of technology and to propel emerging technologies have been developed. This plan is structured to be consistent with the DOE Fossil Energy Advanced Research and Technology Development Program. The program objectives are: (1) to aid in the development of a regional program to develop second generation technologies for precombustion coal cleanup; (2) to provide an organizational framework through which regional universities and INEL can collaborate on this problem; and (3) to define components of the program. This further includes the creation of policy related to clean coal, support of research and development activities, and transfer of emerging technologies to industry.

II. RESEARCH NEEDS

The specific thrust of the proposed initiative is to dramatically advance the state of super-clean coal technology. The implied strategy is to develop existing but immature technologies and to provide new technologies for precombustion coal clean-up.

Initial efforts will use existing technologies, now considered undeveloped and unproved, as the base for coal cleanup technologies. However, to provide the types of technologies desired for implementation in the 1990s, long-range efforts must strive to create venture technologies which radically extend cleanup capability.

The initial coal cleanup research program concept is divided into three major categories: 1) characterization, 2) bioprocessing, and 3) coal beneficiation. The tasks presently envisioned in each category will be jointly performed by INEL and university scientists.

1. Coal Characterization

Coals are highly variable in their composition and character. As an "organic rock," the physical and chemical properties are a function of many variables including rank, botonical input, depositional environment of the original peat bog, mineral matter content, extent of weathering, etc. These factors can vary dramatically even within a given coal seam. The nature of the coal will have a profound effect on the particular technology being applied to reduce pollutants. An example of the diversity of coals within the Rocky Mountain coal province is provided in Figures 1-3. Using sophisticated analytical tools and computer analysis techniques, coals from a five-state region (Figure 1) are shown to group not only by rank (Figure 2) but also by the nature of the carbon skeletal structure of the 100 coals analyzed. In order to devise adequate pre-combustion coal cleanup technologies, it will be necessary to adequately characterize the coal to be used for a given technology. Employing modern characterization techniques such as fourier transform infra-red, pyrolysis mass spectrometery, solid state NMR, etc., coupled with sophisticated computer assisted data analysis, the scientific basis of tailoring the nature of the coal to the coal cleanup technology may be possible.

2. Bioprocessing

Microorganisms collected from several natural sources have been found to digest both the inorganic (pyritic) and organic sulfur containing compounds found in coal. These organisms appeared to release this sulfur in a gaseous form that is easily removed from the coal and biological medium. Given the current state of genetic engineering, expression of traits such as digestion of materials has been enhanced as much as five times. A focused effort to enhance microorganisms which digest coal sulfur constituents could result in digestion rates sufficient to meet on-line demand rates of existing coal feed combustion. Work on digestion reactors that could be employed in unit operations would be a vital segment of this effort. Since biotechnology does not require significant energy input in the form of heat or expensive or caustic chemicals in order to remove sulfur (as required by existing coal washing technologies), biotechnology could play an important role as one of the advanced technologies needed to solve the acid rain problem.

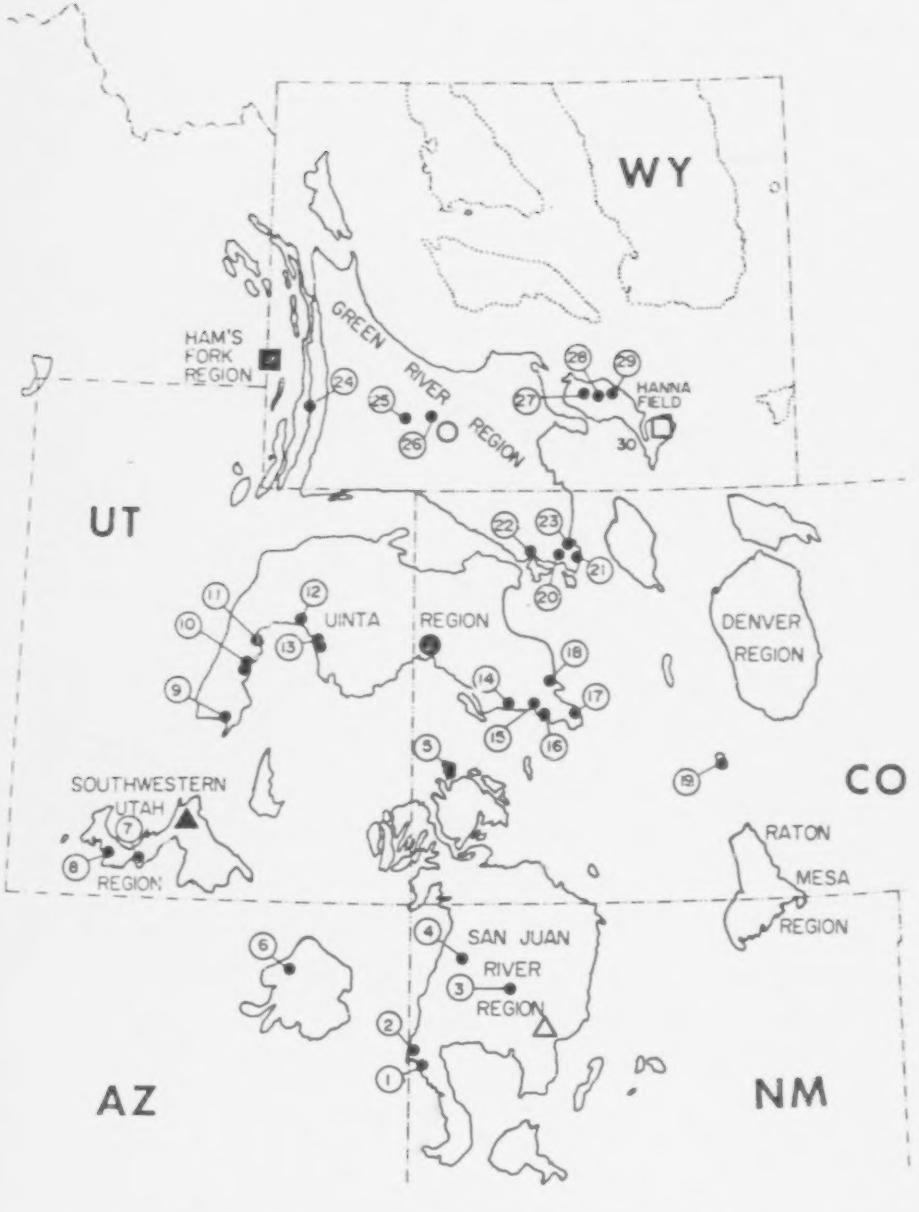
3 Coal Beneficiation

Coal is ground to extremely fine sizes so that the ash can be released from the coal particles. Then, ash particles can be removed by subjecting the ground product in a suitable force field. However, grinding coal to extremely fine sizes requires expenditure of energy and an optimum size of the coal product must be defined. Modern techniques, including computerized image analysis, are well suited for this behavior of ultrafine particles in a suspension of water must be developed so that one can devise newer technologies for coal/ash separation. There are many concepts such as carrier flotation, fast-flotation, chemically enhanced flotation, etc., that are in the laboratory stage. All of these concepts must be carefully examined for technology development. Whatever technology is developed, in order to run a large-scale plant efficiently, one needs process sensors that are interfaced with a control computer for plant automation. This requires an investigation of the behavior of coal particles in magnetic, ultrasonic, X-ray and optical fields.

III. PROGRAM MANAGEMENT AND COORDINATION

The research and development needs outlined require the coordination of a diverse group of talented investigators in the physical, biological, engineering, and minerals sciences. Integrating the current knowledge base on coal and its properties, devising new coal cleaning concepts, carrying out laboratory proof of concept experiments, and transferring the technology to the industrial sector will require a major management effort. Such an effort is outside of the scope or mission of universities. A major government laboratory, such as INEL, is well organized and suited to such a role. In particular, INEL is located near the western universities where major coal research programs exist, is near the major western coal deposits, and has major research support facilities that will be of value to research teams at several of the area's universities. The close proximity of INEL to the major coal research programs in the west will facilitate faculty and student exchange with INEL personnel and facilities where appropriate.

As representatives of Montana State University and the University of Utah, Mr. Chairman, we endorse the initiatives of INEL to develop a cooperative research program in pre-combustion coal clean up with the universities in the western United States.


WY
HAM'S FORK REGION
GREEN RIVER REGION
HANNA FIELD
24
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DENVER REGION
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CO
SOUTHWESTERN UTAH REGION
7
8
RATON MESA REGION
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SAN JUAN RIVER REGION
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AZ
NM

Figure 1. Geographical location of the main coal regions within the Rocky Mountain Coal Province.

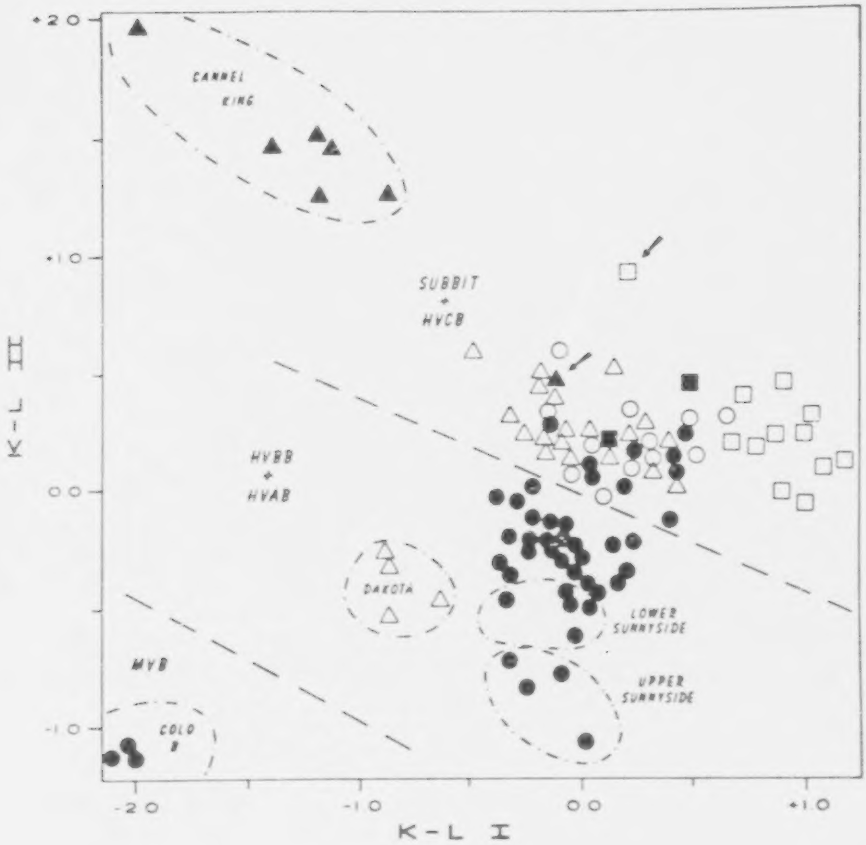


Figure 2. Karhunen-Loeve (K-L) projection of the factor scores for the first two factors of the full Py-MS data set (minus PSOC 161). Symbols used refer to coal regions within the Rocky Mountain coal province (see Figure 1). Note the obvious clustering of samples from individual coal seams as well as the overall rank tendencies with an obvious coalification "jump" between hvCB and hvBB ranks. Arrow points to lowest rank coal (PSOC 161; Subbit C).

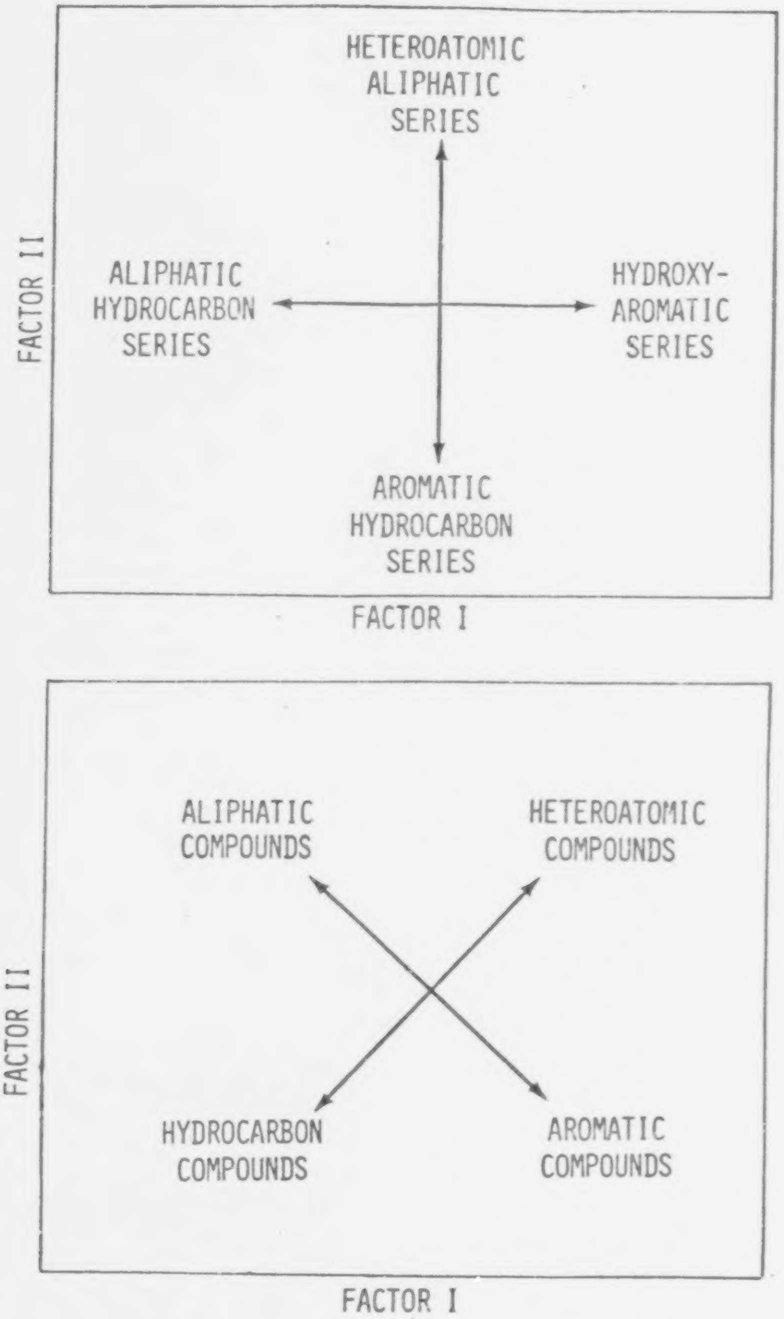

HETEROATOMIC ALIPHATIC SERIES
ALIPHATIC HYDROCARBON SERIES
HYDROXY-AROMATIC SERIES
AROMATIC HYDROCARBON SERIES
FACTOR II
FACTOR I
ALIPHATIC COMPOUNDS
HETEROATOMIC COMPOUNDS
HYDROCARBON COMPOUNDS
AROMATIC COMPOUNDS
FACTOR II
FACTOR I

Figure 3. a, Main series of compounds represented by factors 1 and 11 in Figure 2; b, generalized interpretation showing underlying chemical tendencies obtained by a 45° rotation of (a).

Senator McClure. Mr. John McCormick of the Environmental Policy Institute.

Mr. McCormick?

[No response.]

Mr. Michael Schwatz of Consolidation Coal.

STATEMENT OF MICHAEL SCHWARTZ REPRESENTING CONSOLIDATION COAL CO.

Mr. Schwartz. Mr. Chairman and members of the committee, it is my pleasure to be here with you this morning.

I am Michael Schwartz representing the Consolidation Coal Co. In my capacity with Consol I am responsible for the development of projects involving advance coal utilization and environmental control technologies.

We are the second largest coal producer in the United States with some 45 million tons of production in 1984. Our mining operations are concentrated in the East, notably in West Virginia, Pennsylvania, and Virginia. Further, we are predominantly a supplier of high sulfur coal to the electric utility industry.

Consol is a wholly owned subsidiary of Conoco, which in turn is a unit of DuPont.

For an excess of 35 years Consol has been committed to coal research and the demonstration of advanced coal technologies. Over this period we have sponsored the development of processes involving gasification, hydrogenation, methanol synthesis and utilization, fluid bed combustion, and a number of other areas.

Despite the pressures of the marketplace, which we all very much recognize, we have actually expanded our efforts not only to develop and demonstrate retrofittable SO_2 abatement technologies, such as boiler limestone injection, but identify opportunities for the commercialization of new coal projects based on gasification combined cycle and fluidized bed combustion.

Over the past 2 years our corporate support to SO_2 abatement has exceeded $5 million and currently we allocate approximately $15 million to the support of coal related technical service and R&D exclusive of funds allocated to specific projects.

I believe that this represents the largest single commitment in the coal industry to the development of new coal technologies.

My intent this morning is to outline in very broad terms those technological areas which we believe require or dictate prudent financial assistance as a foundation for the demonstration and ultimate commercialization of several clean coal processes.

We believe that these technological areas can be broken into two distinct categories, if you will, advanced sulfur oxide abatement and advanced coal utilization. The first category involves technologies designed to achieve SO_2 reductions in the range of 30 to 70 percent from assisting units which may be required as a result of Federal or State acid rain legislation or tall stacks regulations.

Based on work performed internally by Conoco, it appears that such techniques have the potential not only for a significant reduction in capital costs, but as much as a 20- to 50-percent reduction in costs compared to conventional fluid gas desulfurization.

As a result, continued demonstration and commercialization appears both appropriate and warranted in terms of meeting the challenge of SO_2 emissions reduction from existing units.

Based upon these features we have carried out in cooperation with DuPont the largest boiler limestone injection demonstration yet to be carried out in the United States. Results from this program were extremely encouraging in technological and economic terms and they provide a firm basis for the full-scale demonstration and ultimate commercialization of this approach.

However, prior to commercial availability, there is a strong requirement for utility scale demonstrations to address the various technical uncertainties related to commercial applications.

It appears that this requirement can only be satisfied by a number of such projects in this decade to make these technologies available in the early 1990's in order to satisfy the requirements of the electric utility industry under an SO_2 reduction situation.

Unfortunately, as you have heard this morning, in light of the serious constraints which characterize the electric utility industry, there exists limited capability on the part of that industry to finance these required demonstration projects.

As a result, one might argue that we face a technology gap. I think that term was referred to by Mr. Nobel in testimony of last year, that is, small-scale demonstration projects have provided encouraging results, and that unless reasonable scale followup projects are funded and carried out, the potential value of the technology in terms of full-scale commercialization will not be realized.

A Federally supported clean coal program could fill this gap and provide the financial support necessary to ensure the availability of these technologies.

As I have noted, considerable attention has been focused on the development of retrofittable SO_2 reduction technologies. In addition, long-term efforts have been made to develop, demonstrate, and commercialize technologies which can serve as a basis for new utility generation projects.

I am not going to dwell in any detail on these, except to say that we believe there are only a limited number of these end-use technologies which one could argue have value and merit in the context of near-term commercialization. We believe that these areas are concentrated in fluidized bed combustion, both atmospheric and pressurized and gasification combined cycle.

In the case of advanced SO_2 abatement technologies, we have already noted that future commercialization will be seriously impeded by the lack of funding support. Unfortunately, given the higher capital costs of projects involving advanced coal utilization technologies, it appears there exists an even more serious problem.

For example, we estimate a utility scale boiler limestone injection demonstration could be performed for approximately $20 million. In contrast, a 200-megawatt gasification combined cycle commercial scale module would require an investment on the order of $450 million.

As a result, it appears that a constructive U.S. clean coal program must be sufficiently broad to include projects which might fall into these two distinct technology and investment classes.

In principle, one might consider the current SFC program under its reconstituted board as providing an extremely sound basis for the support of GCC type projects involving the demonstration of new commercial scale modules.

Therefore, should a complementary clean coal program be developed, the support projects which fall outside of SFC's responsibility, the structure could be in place to provide the foundation for demonstration and commercialization of a broad range of environmentally acceptable coal technologies.

We are convinced that this Nation will be advantaged in the long term by a commitment to the utilization of its significant coal resources. In particular, given the coal industry's current production capacity and reserve position in the eastern United States, it appears imperative that we made a concerted effort to ensure that technologies are available for both utilities and industrials which allow the environmentally acceptable use of coal as a fuel and potential feedstock.

Consol is committed to this concept and is moving forward with our work on SO_2 abatement and in cooperation with Detroit Edison, EPRI, and others. We are seeking to commercialize a 200-megawatt gasification combined cycle project operating on West Virginia coal.

PREPARED STATEMENT

I very much appreciate this opportunity to speak with you this morning and certainly will submit a full statement for the record.

Senator McCLURE. Thank you very much. Appreciate it.

[CLERK'S NOTE.—The statement contained classified information and is being retained in the subcommittee files.]

STATEMENT OF JOHN L. McCORMICK, ENVIRONMENTAL POLICY INSTITUTE

PREPARED STATEMENT

Senator McCLURE. Mr. McCormick.

Your entire statement will be placed in the record, and I would invite you summarize if you can.

[The statement follows:]

STATEMENT OF JOHN L. MCCORMICK

It is a pleasure to appear before you this morning to discuss an issue which has the potiential to make a very important contribution to the Nation's energy and air quality debates. The Environmental Policy Institute has been involved in this issue of energy research since our establishment in 1972. From the outset, let me assure you that we are not opposed to the mining or utilization of coal. We worked with Chairman Udall and Senators Jackson and Metcalf for seven years until the Congress enacted the federal coal strip mining law in 1977. We continue our involvement in the federal coal leasing and synthetic fuels debates also.

The nation's repeated efforts to adopt and maintain an organized energy policy have not produced any agreement of a total package. Instead, we discuss energy conservation, importing fuels, burning certain fuels while banning others, and even the control of the pollutants from our use of energy in separate and isolated pieces. This Committee has an opportunity to integrate some of these vital components in one piece of legislation. We come to you with a list of criteria which this Committee should consider as it proceeds with the establishment and funding of a Clean Coal Technology Reserve.

Before I begin, though, there are several points which must be made.

a. The regulation of the coal surface mining industry since 1977 has not damaged its market. While a much improved regulatory process has been enforced by State and federal agencies, the tonnage rates have increased steadily. Where major contracts for strip mined coal have been cancelled or cut back, it is the quality of the coal that was at issue; not that its producer had to backfill a highwall.

b. Coal has not yet taken the economic nosedive that the nuclear power industry has, but it would not be wise to rule that prospect out at this time.

c. The international coal market is fighting to capture larger markets at the same time its governments are funding research to understand the planet's feedback about the possible consequences of a buildup of carbon dioxide in the atmosphere.

d. There is a growth potential for coal utilization which the U.S. can accommodate; but it is nowhere near the projections which have consumption doubling by the turn of the century, or sooner. There are no signs to confirm the logic of that optimistic view.

e. The U.S. coal industry's real problems are in the here and now. And, we have scientific knowledge and equipment readily available to meet the needs of today's coal producers and users.

f. The Clean Coal Technology Reserve is a part of the Congressional "air pollution/acid rain" debate, but it is NOT THE SOLUTION. That debate must continue to sharpen its focus as the engineering community teams up with the environmental regulators to get on with the task of making our coal use policy fit with our larger environmental and public health goals. We have the means to accomplish this.

Mr. Chairman, as you know, we took a hard line position in the mid-1970's against the creation of a federal guaranteed loan program for the establishment of a synthetic fuels industry in the U.S. When other Committees began to get involved in that matter it became increasingly more cloudy and less popular and the results of the past decade are a vindication of those who opposed massive federal involvement in a non-existent industry for unknown costs. Had some of those Southwest coal gasification proposals been built in the late 1970's some corporations would be banging on the Capital door pleading for price supports for $8 gas in a $3 market.

The last vestage of this approach to federal intrusion into the domestic energy supply industry will hopefully slip into the abyss when the Congress approves the deauthorization of the Synthetic Fuels Corporation. This debate has been lengthy and expensive in terms of the time the Congress devoted to the discussion of exotic fuels production technology while deemphasizing the obvious research needs of our basic fuels production industry - the domestic coal industry.

If this Committee intends to convince the Senate to fund the Clean Coal Technology Reserve, it will need the political support of those legislators representing States downwind of Midwest electric utility and industrial coal-burning furnaces. They are the same legislators who have to explain why the E.P.A. budget for air quality monitoring equipment and the research of air pollution effects on forests and public health cannot be increased in a year of tough federal spending decisions. The Environmental Policy Institute is willing to carry this Clean Coal research program to some of those legislators and urge them to support it. But, it would have to accomplish certain goals and contain several requirements and limitations on the types of research projects it would fund. The following are criteria and procedures which should be applied to the Program. We urge this Committee to consider them as it considers funding a federal/private sector research program that will return a dividend on the taxpayers' investment.

I. THE E.P.A. MUST HAVE CONSULTATION AND CONCURRENCE ROLES, PREFERRABLY AT THE LEVEL OF ASSISTANT ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT

The on-going research of the various coal combustion technologies by the E.P.A. is underfunded but competently managed. The team of combustion engineers that Frank Princiotta, Director of Industrial Environmental Research Laboratory assembled at RTP are first-class engineers and their development of the LIMB demonstration program is on time and on track. Their efforts are direct responses to the air quality regulation needs of the Agency and that kind of integrated approach will continue to assure that the research fits rational goals and immediate tasks. His shop is not "supply" oriented. It's focus is on pollution control and emissions reduction. Limited funding of the Clean Coal program should be no great problem for a lean and productive effort such as Princiotta manages.

2. THOSE POLLUTION CONTROL TECHNOLOGY CANDIDATES WHICH PROMISE ATTAINMENT -OR BETTER THAN- OF CURRENT AIR POLLUTION STANDARDS UNDER STATE AND FEDERAL LAWS SHOULD HAVE FIRST ACCESS TO FUNDS

A coal research program with a budget of $100 million must be strictly focused or it will squander its resources quickly and have little or nothing to show for its investment. Looking at the potential research candidate list and the project costs they represent, it is clear that the energy supply projects are very expensive in contrast to those which are designed to limit pollution emissions. The problems of fuel supply, in the U.S., are partially being solved by market forces. Shifts within the industrial fuels-buying market are taking place constantly and individuals are making changes in their lifestyles and consumer habits which have been acceptable. Therefore, the Program should not even consider those candidates which add new fuel sources to the market. We may need them over time but not now and not at $100 million per year.

3. UTILIZE EXISTING LABORATORIES, EQUIPMENT, FACILITIES AND PERSONNEL TO HOLD DOWN COSTS AND TAP AVAILABLE EXPERTISE IN THE ACADEMIC, INDUSTRIAL AND GOVERNMENT RESEARCH CENTERS.

The work the Electric Power Research Institute has underway is a valuable investment for the Nation's electric utility customers. Under the leadership of Curt Yeager, Vice President of the Coal Combustion Systems Division, EPRI is making headway on the use of fluidized-bed coal combustion equipment for large base-load electric generation and for the retrofit of older boilers. Its work on lime sorbents and low NOx boilers can be expanded quickly if the Clean Coal Program has the flexibility to dovetail the efforts of each.

The Department of Energy's Pittsburg and Morgantown facilities are located where the longterm needs of the coal industry are most acute; in the high sulfur coal regions. The acceleration of chemical coal washing research must be included on any list of priorities in the Clean Coal Program. And, the full spectrum of concerns about down stream pollution control needs should be incorporated in the design of coal cleaning technologies where large amounts of residues are generated.

4. WHERE POSSIBLE, SHARED RESEARCH PROJECTS WITH CANADIAN GOVERNMENT AND INDUSTRY SHOULD BE ENCOURAGED.

The EPA's LIMB demonstration program has no funding for the design and testing of that SO_x and NO_x control equipment on a tangential-fired boiler. That the wall-fired boiler LIMB test is proceeding is good news indeed. But, operators of tangential boilers (about 45% of the U.S. boiler market) will learn very little from that success. However, the Canadians have tested LIMB on a tangential boiler in Saskatchewan Power Corporation's Boundary Dam Unit #6. This 300 MW, lignite-fired boiler may have the capability to be modified for a test burn of medium and high sulfur bituminous coals mined in the Midwest and Northern Appalachian fields. The costs would be minimal compared to the capital demand for such a test in a boiler not already LIMB retrofitted. The costs of shipping the coal to the Saskatchewan plant would be minimal and test results would be available within 18 months. This should be discussed with the Canadians and I will furnish this Committee with the names of company officials to whom I was referred by Canadian representatives.

Since the concerns of the Canadians about U.S. footdragging on the "acid rain" issue will not be satisfied by Congressional pollution control legislation any time soon, it would be a welcome jesture to extend to our neighbors that we do want to find a resolve to the transboundary air pollution problems we share.

5. CANDIDATE PROJECTS DESIGNED TO MEET AND IMPROVE UPON NEW SOURCE PERFORMANCE STANDARDS OF THE CLEAN AIR ACT SHOULD BE ACCORDED THE HGIHEST PRIORITY AMONG CANDIDATE TECHNOLOGIES.

The coal and electric utility industries remain strong critics of the utility and costs of stack scrubber equipment. They site the obvious complaints of the high capital and maintenace costs and the scrubber sludge disposal problems. Now is the time to take their concerns to heart and offer them support for finding a cheaper and more efficient means of achieving the "Percentage Reduction" requirements of the Clean Air Act. Coupling coal washing to the LIMB technology is only one means of further reducing emissions from a stand alone technology. Since the standard for high sulfur coal is 90% SO_2 removal under the NSPS, that is the mark which candidate proposals should have to achieve or improve upon. Any improvements above 90% removal should be encouraged up to the limits of the funds available but should not represent the bulk of committed research dollars.

6. THE SECOND HIGHEST PRIORITY SHOULD GO TO THOSE TECHNOLOGIES DESIGNED TO RETROFIT EXISTING EQUIPMENT WHILE ACHIEVING AT LEAST 70% REDUCTION OF SO_2 AND NO_x EMISSIONS.

Mr. Chairman, the economics of the electric utility industry in the U.S. have changed dramatically in some regions of the Nation over the past ten years. Traditional doubling of demand each decade has shrunken to less than 2% annual growth in electricity demand almost over night. This has placed an overwhelming financial burden on those companies heavily capitalizing in huge nuclear and coal base load generators while its electricity market evaporates. For some, this has meant a complete restructuring in their planning and load management. Now, companies are looking to hold onto existing units beyond their normal book life in order to save capital while revenues are plummeting or debt service costs escalate. That is a fundamental flaw in our Nation's plan to steadily improve on air quality because it was predicated on the understanding that companies would gradually retire the old and dirty boilers and replace them with New Source Performance Standard regulated equipment.

When I brought this complaint to an Energy and Commerce Subcommittee in February, I called for the imposition of National Guidelines on the retrofit of old electric utility and industrial boilers. Electric utility company representatives on our panel concurred with that view. They reason that the retrofit investment may be threatened if the Congress comes up behind them with an acid rain control measure which requires further retrofit for pollution control equipment.

The West Germans have defined a new catagory of existing and polluting boilers which must be cleaned up if they operate beyond a predetermined number of hours. Thus, a boiler operator could spread the allowed remaining hours of operation over a long period of time without modifying its pollution control capability but it would have to make those investments if it wanted to operate the units beyond that imposed limit. That would give the boiler operator the option to plan its retirement or its future in the context of operating finances and need for rate increases.

Fluidized-bed retrofit of existing units are being planned and researched at the present time and their success will offer huge returns to the coal user market. But, the costs may be quite high on a per-kilowatt of installed capacity basis. Whether it is flu-bed, LIMB, or another type of boiler modification, it is a lucrative market for vendors and the target boilers are caught up in the E.P.A.'s tall stacks rule-making procedure. Many of those units have been included in the acid rain legislation considered by Chairman Henry Waxman in the 98th Congress markup of acid rain legislation. Whatever the rationale, the retrofit of old and dirty boilers must get attention in the Clean Coal Program because 25% of the Nation's boiler capacity will be 25 years or older by 1990. By the year 2000 that number will exceed 50%. The acid rain problem will not go away, as the coal industry has boasted, as long as the emissions from those older units are not reduced. This Congress must face that reality. The acid rain battle cannot be won by attrition.

7. CANDIDATE TECHNOLOGIES SHOULD HAVE NO MORE THAN A 24 TO 36 MONTH STARTUP AND SHAKEDOWN SCHEDULE.

This is a difficult criterion to establish with assurance that it will force efficiency into the Clean Coal program. However, it should be a consideration in any strategy which accounts for the urgency of complying with the tall stacks regulation when it is finally adopted and promotes technologies already moving down the path towards commercialization. This is not the time to begin conceptual work on pollution control technologies. We must improve on what we now have and get them ready for commercialization as soon as possible. That will not cause us to back away from the more frontier oriented research on the drawing boards and in the pilot stage. They should proceed but their timed arrival does not fit the more pressing needs of the coal customers today.

8. ONLY THOSE TECHNOLOGY RESEARCH PROJECTS WHICH MOVE DESIGNS FROM THE PILOT STAGE OR, PREFERRABLY, THE PRE-SCALEUP STAGE TO THE READY-FOR-COMMERCIAL-USE PHASE SHOULD BE CONSIDERED IN THE FIRST THREE YEARS OF THE PROGRAM.

This is a reiteration of the point made above. There will not be the long-term funding needs committed to Clean Coal candidates which have not already passed several thresholds in its research life. A great deal of time, talent and money have already been invested in this area of research

Reinventing what we already know may create jobs for consultants and engineers but this Nation's fiscal budget cannot afford that approach and the public deserves better planning and higher goals from the Clean Coal Technologies Reserve.

9. WASTE DISPOSAL RESEARCH SHOULD BE GIVEN A HIGH PRIORITY.

The enactment of the Resource Conservation and Recovery Act and the debate over reauthorization of the Superfund law have raised a tremendous amount of awareness about the serious problems we face in controlling toxic runoff from the piles of hazardous wastes being dumped upon the land. Whether it is stack gas scrubber sludge, wastes from a coal cleaning plant or disposal of fly ash and the spent-bed material from a fluidized-bed coal boiler, each residue has its own particular hazards and requires special disposal procedures to assure that pollution control equipment does not create a new wave of pollution problems. Fortunately, the Japanese and Europeans are wrestling with similar problems and there is a growing list of options for utilizing those wastes by treatment or recylcing rather than disposal into the land. The enforcement of RCRA and Superfund laws should not be a threat to the utility and industrial sectors. They will find that the liquid and solid wastes have potential for raising new revenue if special attention is given to finding those methods of treating the wastes and marketing them for profit.

Mr. Chairman, before I conclude my statement, let me reiterate our commitment to winning federal funding for a carefully designed and goal-specific Clean Coal Program. We believe that sufficient political interest will be drawn to a plan which focuses upon the research of coal boiler emission reductions. Those legislators frustrated by the 99th Congress' faltering on the enactment of the Clean Air Act reauthorization can push for adequate appropriations because the increased federal spending will have a direct benefit to their constituents living downwind of the millions of tons of sulfur dioxide and nitrogen oxides spewing from Midwestern coal-burning power plants.

As the successful demonstration of these clean coal technologies point the way to cheaper and cleaner air pollution control options, those same legislators will find it easier to convince the Congress that the Nation can cut its air pollution levels in half. Meanwhile, industry's increasing dependence upon our most abundant domestic fuel supply - the more than 150 billion tons of readily recoverable coal- can be accommodated without causing the environmental damage which threatens to blunt the potential for using more coal.

Mr. McCORMICK. Thank you, Mr. Chairman. I apologize for not being here when my name was called.

Mr. Chairman and Senator Byrd, I am John McCormick with the Environmental Policy Institute. Our organization has been involved in the national coal mining and utilization debate since our beginning in 1972.

I come to you as a supporter of coal utilization and the coal industry. While we worked for 7 years on the Federal coal service mining legislation and now its implementation and then on coal leasing and then on coal technology and synthetic fuels, we have always been an advocate of using more coal once mined cleanly and according to the guidelines of the Federal strip mining law and, of course, burned according to the guidelines of the Federal Clean Air Act.

So we don't have any problem, Mr. Chairman, with increased use of coal. In fact, we encourage it as long as we pursue a program that takes into account the long-range implications of increased fossil fuel use, and there, Mr. Chairman, I reference the international debate on the greenhouse effect.

Now with regard to the clean coal technology reserve, Mr. Chairman, I must say that we have not been a supporter in the last several years of this program because we have been concentrating on trying to direct the Congress' attention to taking care of the problems that continue to exist with the Synthetic Fuels Corporation.

But we feel that a lot of progress is being made, and I think it has come to light now, Mr. Chairman, that the Synthetic Fuels Corporation might best be put aside and concentrate on America's backbone fuel, coal. And we believe here that the clean coal technology reserve has a very important part to play, but only if this program is reigned in such that the candidate technologies meet the most immediate needs of the industrial and the utilities sectors, and that being emissions reductions.

Mr. Chairman, I have offered several criteria which I believe ought to be a part of an authorization bill, and that authorization bill should precede the House and Senate Appropriations Committees approving of any dollars to be spent by a clean coal reserve.

Paramount among these criteria, Mr. Chairman, would be a concurrence and consultation role with EPA. Our feeling is that EPA's efforts in the LIMB technology, the scrubber technology, the team that Frank Princiotta at Research Triangle Park has assembled, some of the best combustion engineers in the country ought to give EPA not only a part but an equal part with the Department of Energy's choice of technologies.

And with the combined help of EPA and DOE we believe that we can advance technologies that are approaching the commercialization phase but with some Federal cost sharing of perhaps 30 percent Federal share we could advance those technologies up to the commercialization stage.

This committee has been very supportive of LIMB demonstration on the wall-fired boiler and we feel that there is a lot to be gained by the electric utilities sector in the completion of that project. We would like to see increased money for tangential fired boiler demonstration, but we realize the difficulty in the fiscal year 1986 EPA budget.

Therefore, we suggest, Mr. Chairman, that our U.S. envoy, Drew Lewis, negotiate with the Canadians to see if there is an opportunity to use a LIMB retrofitted tangential boiler now in operation at the Saskatchewan Power Co., and it might well be, Mr. Chairman, that we could ship coal to a semimodified LIMB retrofitted boiler and save a great deal of money and time in demonstrating this technology on another type of boiler.

Mr. Chairman, the other criteria I have included try again to narrow the window through which applications would have to go and those applicants who can directly address again the immediate needs of the utility and industrial sector, emissions reductions, are the ones who should get the first priority in moneys from this clean coal technology program.

Mr. Chairman, we feel that the downwind States are those which can provide the votes to pass a clean coal technology reserve appropriation. We also feel they are the States that could prevent its enactment because at the time when we can't find money for indoor air pollution in the EPA budget, it is going to be difficult for these legislators to go back and explain why they provided $100 million for coal technology.

We feel again, Mr. Chairman, that if they are provided an incentive, and that being a host of new options for Midwest and Southeast coal burning boiler operators, that there would be an incentive to support that funding and perhaps very generously.

With that, Mr. Chairman, I will end my comments and be available for questions.

Senator McCLURE. Thank you very much.

Senator Byrd?

Senator BYRD. No questions. Thank you.

Senator McCLURE. I have no questions at this time, but we may submit some for the record.

Thank you very much.

STATEMENT OF DR. HERMAN MERTINS, VICE PRESIDENT FOR ADMINISTRATION AND FINANCE, WEST VIRGINIA UNIVERSITY

Senator McClure. Dr. Herman Mertins.

Mr. Mertins. Thank you for an opportunity to testify on this subject.

Senator Byrd. Dr. Mertins, would you just delay for a moment, please.

Mr. Mertins. Oh, yes, sir.

[Pause.]

Senator Byrd. The chairman will be momentarily. I might take the opportunity to thank you for appearing here today, Dr. Mertins, and I look forward with interest to hearing your statement and reading it then more carefully later.

I see you have George Fumick here also. West Virginia is well represented I would say.

Mr. Mertins. Yes.

Senator Byrd. And it should be.

Senator McClure. Please proceed.

Mr. Mertins. Thank you very much, Mr. Chairman.

I am Herman Mertins, vice president for administration and finance at West Virginia University.

If the committee is agreeable, I would just as soon provide an overview of my statement and make some of the major points that I think we ought to cover.

Senator McClure. If you would, please.

Mr. Mertins. WVU supports the clean coal technologies program to help fund on the campus of WVU an energy park. This is we think a very unique kind of proposal and we think that the university is a very appropriate vehicle to make it work.

The heart of this park as we envision it is a fluidized bed coal gasifier which will burn coal in an environmentally safe manner and produce gas for space heating and electrical generation.

We have a secondary part of our plan for the energy park that will provide for municipal solid waste combustion, again addressing another very major problem that we have in the State of West Virginia and we believe here we have an opportunity also to demonstrate how advanced technology can be applied.

We see the primary value of the project as developing a technology that can be demonstrated to be effective in tapping the enormous coal resources of the United States, including Appalachian coal.

So the primary emphasis that we look to here in our project is to develop a means for technology transfer and particularly to focus that technology transfer on the intermediate kinds of projects that we believe have a great deal of application, not only in our State, but throughout the United States.

If I might just provide an overview, I would say that our people at West Virginia University are extremely enthusiastic about this project for at least eight reasons and probably more, and let me just briefly review them.

No. 1, the university must replace its current steam plant capacity. We have power generating capacity at the university that is over 47 years old, well beyond its lifetime. So we are talking about a very practical project and a very real need that we must meet.

Now we could do this in a conventional manner, but we feel as the State's flagship institution that we ought to try to do more. Thus, we are very interested in pursuing this particular proposal.

We would like to be able to develop new capacities and demonstrate feasibility. We really prefer not to be conventional, and again we see this as a role in which the goals of the university and the goals of the program that you have so ardently supported here come together very well.

Second, we do have needs, very substantial needs for the generation of electricity and the program that we have put forth provides for cogeneration on the scale of about 23 megawatts, again a very appropriate size for the campuses of WVU.

Our third point is that we see this as a great opportunity to help the State and the Nation in advancing clean coal technology. We obviously are in the need of Federal assistance in the cost sharing, however, to help us deal with the risks that are naturally involved in developing a new technology. We will bear a substantial part of the burden, but obviously the Federal assistance really can make a difference.

The fourth point that makes us enthusiastic about this project and that brings it together with other things is the fact that West Virginia University has been selected as the National Science Foundation university for industrial cooperation on research and fluidization. It is the only one in the Nation devoted to this specific kind of research. We have already invested about three-quarters of $1 million in advancing that center and we expect that in the future we will be contributing a substantial amount more, probably in the range of $300,000 a year.

So we would anticipate that the operation of this facility when it is put into place and the research that will be done simultaneously at the fluidization center makes this a very unique kind of opportunity and offers a great deal of promise for quickly advancing some aspects of coal technology.

The fifth reason is the fact that the energy park at West Virginia University is located very near, or would be located very near the Department of Energy, Morgantown Energy Technology Center. That center is already an international showcase for energy developers, scientists, engineers, and dignitaries.

METC is considered a world leader in the study of coal combustion technology and here we can bring together the attractiveness of METC and also the attractiveness of West Virginia University which also attracts many, many visitors, particular to view some of its advances in technology. So we have once more an excellent opportunity to dispense knowledge and enhance technology transfer.

The sixth reason is that West Virginia University is the State center for the coal and energy research. It is funded by the State of West Virginia at the level of approximately $1.2 million per year. We have our own energy research center.

The seventh reason is the fact that we have a new commitment in the State of West Virginia, and I think that the State as many people now has been hard pressed economically in the past few years particularly, and yet we have a new commitment to expand facilities on the university that are directly related to advancing this technology.

Specifically, we would be building a new engineering sciences building at a cost probably of $15 million. We will also be building a new College of Mineral and Energy Resources Building at a cost of about $10 million. Both of these will house programs that would directly contribute to the research that is involved in clean coal technology for the State. So we are looking at a major new kind of research capacity being created.

And, finally, when we think about the setting I would suggest to you that the university will provide an outstanding collection of people in research who will be devoted to mineral and energy research, chemical engineering, and the allied fields, all of which are very much related to the clean coal technology.

So in conclusion I would say that the university has a very practical need that must be met. It blends very well with what we perceive to be the purposes of the program that we are discussing today. We have a high interest in solving practical problems and we have a very high interest in assuring that coal is used and can be used in the future in a very economical and at the same time environmentally safe way.

Thank you, Mr. Chairman.

PREPARED STATEMENT

Senator McClure. Thank you very much, Dr. Mertin.

Your prepared statement will be placed in the record at this point.

[The statement follows:]

STATEMENT OF DR. HERMAN MERTINS

I am Herman Mertins, Jr., Vice President for Administration and Finance for West Virginia University. I would like to begin by thanking you for the opportunity to testify in support of appropriating funds for the development of emerging clean-coal technologies through the reserve established by House Joint Resolution 648.

West Virginia University (WVU) supports the Clean Coal Technologies Program to help fund the development of an Energy Park in Morgantown, West Virginia. This proposed demonstration facility will take a leadership role in advancing the environmental and economic suitability of Appalachian coal for a vast new market segment.

The heart of the park will contain a fluidized bed coal gasifier which will burn coal in an environmentally safe manner and produce gas for space heating and electrical generation. The secondary portion of the project will be a municipal solid waste combustion plant effecting a 90 percent waste reduction and steam energy while disposing of up to 150 tons of refuse per day and with no contribution to ground-water pollution.

The primary value of this project is to develop a technology that can be demonstrated to be effective in tapping the enormous coal resources of the United States, including Appalachian coal. Primary emphasis will be placed on developing a means for technology transfer to apply to the intermediate range of needs for energy generation. The University provides a perfect setting for such a demonstration, bearing many of the characteristics of a small urban area.

Another extremely important element of the technology to be applied is its use of ungraded coal that will be used in a way that is environmentally safe and at the same time, economical. Again, this development and application of new technology holds great promise of demonstrating how the huge reserves of coal in the United States can be well used, thereby lessening dependency on other sources of energy, most of them foreign.

The Energy Park will be located less than two miles from the Department of Energy/Morgantown Energy Technology Center (METC). It will serve as an international showcase for energy developers, scientists, engineers and dignitaries who visit the center. METC is a world leader in the study of coal combustion technology.

Complementing the METC effort will be research and data dissemination by West Virginia University's/Industrial Cooperative Research Center on Fluidization. The demonstration that coal and refuse can be cleanly combusted in a residential setting will receive national exposure.

As envisioned, this project will have significant impact on the State of West Virginia and the nation. In addition, it will result in substantial savings in University annual operating expenses. Moreover, the National Science Foundation University/Industrial Cooperative Research Center on Fluidization at WVU stands to advance from national and international recognition through publication of environmental and performance data. The nation and the State stand to gain from vast new markets for high-sulfur coal.

The Energy Park is sized to meet a demand currently dependent on natural gas or petroleum because of the high cost of providing currently available environmental protection systems for smaller sized coal-powered plants. Through new gasification technology, the Energy Park will provide gas, steam and electricity to service a one million square foot medical center and three-and-one-half million square feet of academic, administrative and residential structures. This, coupled with its capability to dispose of 150 tons of solid waste per day, makes the park an ideal and properly sized commercial package for small-to-medium cities (50,000-500,000 population), military bases, industrial parks, universities, shopping malls and large manufacturing plants. With each subsequent facility constructed, our nation will lower energy costs to our manufacturing and service industries; put unemployed miners and related industry workers back on the employment rolls; and, most importantly, move one step closer to independence from foreign energy sources.

The nation will benefit from data published on tests conducted on burning of various types of U.S. coals and recoverable resources. Energy developers visiting the Department of Energy/Morgantown Energy Technology Center will be able to see the potential of burning low-cost in environmentally clean energy production.

The power-generating facilities of West Virginia University must be replaced in the near future. However, WVU is not capable of fully financing the complete Energy Park as described, given the risks inherent in pioneering the development and application of a new technology. The incentives provided by the Clean Coal Technology's program are needed to support this innovation. The alternative is for the University to proceed with the construction and renovation of its power plant needs in the least expensive way which, at this point in time, would probably result in the application of very conventional technology. But such would not contribute at all to promoting expanded use of coal and the many side benefits of this project that would result from Federal participation. Federal participation in this concept is both necessary and proper as the application of the principles demonstrated will have national benefits and international applicability.

Large amounts of Federal support have already been appropriated for research on coal combustion. Unlike that funding, however, the Clean Coal Technologies Reserve is geared toward full scale commercialization of a technology. The wisdom behind the reserve is evident. Research is vital to any technological advances, but it is only through operational plants that America will start to reduce dependency on foreign petroleum and gas. The Energy Park proposed today is uniquely capable of demonstrating and promoting commericalization of coal gasification because of its geographical location, size and capabilities.

Senator McClure. Senator Byrd.

Senator Byrd. Dr. Mertin, thank you for your statement here today. I understand that your submission, which is contained in the Department of Energy's report, has been substantially revised. Would the revised project still be carried out under the auspices of the newly designated National Science Foundation University Industry Cooperative Research Center in fluidization?

Mr. Mertins. Senator Byrd, our plan was that the center would be very closely allied with our efforts, and actually the way I see the project evolving now it would be a combination of leadership that we would provide at the central university administration in close cooperation with people who are now heading our efforts in the NSF area.

Senator Byrd. What industrial participation is there in this center and how might the center help to commercialize the technology?

Mr. MERTINS. Yes, sir; in the first year of the fluidized center we set as a goal contracting with at least, if we could get them, eight industrial partners who were interested primarily in basic fluidized bed research. Thus far we have five signed up and we have three under active negotiation at this point in time.

Those that are part of the effort at this point in time, and by the way when they do this they contribute $30,000 a year toward the basic research effort and agreed to do that for 5 years.

Participating at this point in time are Monsanto, Standard Oil, DuPont, Union Carbide, and Sohio. And, as I said, we have additional firms with which we are negotiating right at this point in time.

Senator BYRD. Thank you.

Thank you, Mr. Chairman.

Senator MCCLURE. Thank you very much, Dr. Mertin.

Mr. Harry Tauber.

Senator BYRD. Mr. Chairman, could I recognize just for a moment Mr. Fumick, George Fumick. He was I believe the first Director of the Office of Coal Research, the history of which goes back a quarter of a century or more.

You know, when I was in the House of Representatives we fought to establish an Office of Coal Research and it took the Congress several years I think to recognize the wisdom of doing just that. Mr. Fumick, who is from Clarksburg, I believe, or Morgantown, that area of north-central West Virginia, was the first Director, and a very able one at that.

So I just couldn't let the opportunity pass without calling to the attention of the subcommittee and the audience that Mr. Fumick is still very interested directly in this important matter of coal research.

Thank you very much for coming.

Thank you, Mr. Chairman.

Senator MCCLURE. Thank you, Senator Byrd.

And of course you are welcome, as are our other guests here.

Mr. Tauber.

STATEMENT OF HARRY TAUBER, GROUP VICE PRESIDENT, THE DETROIT EDISON CO.

Mr. TAUBER. Good morning, Mr. Chairman and members of the subcommittee. I am Harry Tauber, group vice president of the Detroit Edison Co., Michigan's largest electric utility company.

This is an abbreviated version of what I have submitted to you and I appreciate the opportunity to provide this statement in support of the clean coal technology program.

While the country as a whole has exhibited a recent decline in total energy use, the use of electricity is increasing as a percentage of that total, and coal, as you know, plays a major role in the generation of electricity. Approximately 98 percent of Detroit Edison's electric generation during 1984 was from coal-fired units. We use 14 million tons of coal a year.

Our company has spent an average of $1 billion a year over the past 6 years to complete new facilities in order to meet the future energy needs of our customers. The strain of financing and managing such large-scale projects is enormous and one literally bets the future of the company on each such project.

The nuclear power generating option is essentially dead in this country for some time to come and only the coal option remains. Based on the lead time required to construct new large coal based generating facilities, Detroit Edison should have already begun planning for a new generating unit for the mid to late 1990's. We have not begun nor do we have any plans to begin a large new generation project in the foreseeable future.

The risks and costs associated with such projects are prohibitive under today's conditions. The same situation applies across the Nation, and I know of no utility chief executive officer who is willing to go before his board of directors and ask to start a large new construction program.

Even if one were willing to accept such a risk, pulverized coal fired units are the only proven coal base generation technology. Such units would tend to be large in size because of the economies of scale and require large amounts of capital, and the licensing and construction process exceeds 10 years.

Forecasting when these new large units will be needed is very difficult, and as a result the utility is often required to justify large reserve margins which develop from the addition of large blocks of generation to meet a slowly growing demand. Clearly a new approach is needed to meet this demand.

Either the lead times for new large plants must be radically shortened and the financial risk reduced or a technology must be proven that minimizes these risks. Costs and risks must be reduced through the use of modular plants, much of it factory fabricated that can be rapidly permitted and constructed over a range of sizes to match more closely the growth in load.

The technology must represent an improvement in environmental controls to meet existing and emerging environmental requirements.

Now a review of emerging clean coal technologies led us to the conclusion that the integration of coal gasification technology with that of the advanced gas turbine combined cycle technology affords an opportunity for meeting future power requirements in an environmentally superior manner.

Responding to the Department of Energy's program, Detroit Edison, Consumers Power, the Electric Power Research Institute, Consolidation Coal Co., General Electric, and the Slagging Gasification Consortium submitted a proposal to design, finance, construct, and operate a pioneer commercial scale module of a combined cycle gasification facility in Michigan.

The project would utilize a slagging gasifier to convert 1,800 tons a day of coal to gas. The clean gas would be used to generate 180 to 200 net megawatts of electricity. Successful operation of this pioneer demonstration project would illustrate the performance of the technology on a commercial scale so that the risks associated with the new technology can be reduced to an acceptable level in an industry where reliability of service is paramount.

Now the advantages of the combined cycle concept are numerous. It would permit the use of high sulfur bituminous coal and still meet strict environmental standards. Most of the major components of the proposed plant are capable of being shop fabricated. Therefore, costs would be reduced, quality control improved, and field construction time greatly reduced.

Plants could be located on existing sites even in urban areas and environmental performance would be superior to current coal based technology.

Now the costs and risks associated with it prove the long-term reliability of any up-scale technology under utility operating conditions and under present utility regulation are extensive. Benefits are not often commensurate with the costs and risks associated with first-of-a-kind facilities.

Therefore, Mr. Chairman, I am urging you today to fund fully the clean coal technology program and to allow the electric utility industry in concert with the Federal Government to accelerate the development of technologies like the integrated gasification combined cycle. The time is here now to bring to commercial scale those technologies that show promise for meeting the environmental and energy needs of the Nation.

Senator McClure. Thank you very much, Mr. Tauber.

I will invite you to be thinking to the time when we have the hearing in the Energy and Natural Resources Committee on the broader range of utility problems so that we may perhaps be able to balance the risk better and encourage utilities to take risks as well as trying to minimize risk by Federal participation.

Mr. Tauber. I heard your earlier statements on that subject and certainly agree with them 100 percent. I would be pleased to participate.

Senator McClure. Thank you very much.

Senator Byrd?

Senator Byrd. No questions.

PREPARED STATEMENT

Senator McClure. Thank you. Your prepared statement will be inserted in the record.

[The statement follows:]

STATEMENT OF HARRY TAUBER

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, I AM HARRY TAUBER, GROUP VICE PRESIDENT OF THE DETROIT EDISON COMPANY, MICHIGAN'S LARGEST ELECTRIC UTILITY COMPANY. WE PROVIDE ELECTRIC SERVICE TO NEARLY FIVE MILLION PEOPLE AND ESSENTIAL INDUSTRIES IN A 7600-SQUARE-MILE AREA OF SOUTHEASTERN MICHIGAN, INCLUDING THE DETROIT METROPOLITAN AREA. I APPRECIATE THE OPPORTUNITY TO PROVIDE THIS STATEMENT IN SUPPORT OF THE CLEAN COAL TECHNOLOGY PROGRAM.

WHILE THE COUNTRY AS A WHOLE HAS EXHIBITED A RECENT DECLINE IN TOTAL ENERGY USE, THE USE OF ELECTRICITY IS INCREASING AS A PERCENTAGE OF THAT TOTAL. COAL, OUR MOST ABUNDANT INDIGENOUS FUEL RESOURCE, PLAYS A MAJOR ROLE IN THE GENERATION OF ELECTRICITY. APPROXIMATELY 98 PERCENT OF DETROIT EDISON'S ELECTRIC GENERATION DURING 1984 WAS FROM COAL-FIRED UNITS. ALL OF THE COAL-FIRED POWER PLANTS IN THE DETROIT EDISON SYSTEM UTILIZE FUELS WITH EQUIVALENT SULFUR CONTENT OF LESS THAN ONE PERCENT. MICHIGAN HAS DONE ITS ENVIRONMENTAL JOB, BUT THE ONGOING DEBATE ON ACID RAIN COULD FURTHER IMPACT THE STATE THROUGH THE LOWERING OF EMISSION STANDARDS, CAUSING THE RETROFITTING OF FLUE GAS DESULFURIZATION SYSTEMS ON EXISTING PLANTS AND PROBABLE COST INCREASES OF THE LOW-SULFUR COAL SUPPLY CURRENTLY IN USE.

OUR COMPANY HAS SPENT AN AVERAGE OF A BILLION DOLLARS A YEAR OVER THE PAST SIX YEARS TO COMPLETE NEW FACILITIES IN ORDER TO PROVIDE AN ADEQUATE AND RELIABLE ELECTRICITY SUPPLY TO MEET THE FUTURE ENERGY NEEDS OF OUR CUSTOMERS. THE STRAIN OF FINANCING AND MANAGING SUCH LARGE-SCALE PROJECTS IS ENORMOUS AND ONE LITERALLY BETS THE FUTURE OF THE COMPANY ON EACH SUCH PROJECT.

THE NUCLEAR POWER GENERATING OPTION IS ESSENTIALLY DEAD IN THIS COUNTRY FOR SOME TIME TO COME AND ONLY THE COAL OPTION REMAINS. BASED ON THE LEAD TIME REQUIRED TO DESIGN, LICENSE AND CONSTRUCT NEW LARGE COAL-BASED GENERATION FACILITIES, DETROIT EDISON SHOULD HAVE ALREADY BEGUN PLANNING FOR A NEW GENERATING UNIT FOR THE MID TO LATE 1990s. WE HAVE NOT BEGUN, NOR DO WE HAVE ANY PLANS TO BEGIN A LARGE NEW GENERATION PROJECT IN THE FORESEEABLE FUTURE. THE RISKS AND COSTS ASSOCIATED WITH SUCH PROJECTS ARE PROHIBITIVE UNDER TODAY'S CONDITIONS. THE SAME SITUATION APPLIES ACROSS THE COUNTRY, AND I KNOW OF NO UTILITY CHIEF EXECUTIVE OFFICER WHO IS WILLING TO GO BEFORE HIS BOARD OF DIRECTORS AND ASK TO START A LARGE NEW CONSTRUCTION PROGRAM.

EVEN IF ONE WERE WILLING TO ACCEPT SUCH A RISK, THE ELECTRIC UTILITY INDUSTRY STANDS TODAY AT A THRESHOLD OF CHANGE IN ITS TECHNOLOGICAL BASE FOR COAL-FIRED GENERATION. PULVERIZED-COAL-FIRED UNITS ARE THE ONLY PROVEN COAL-BASED GENERATION TECHNOLOGY. SUCH UNITS, WHICH TEND TO BE LARGE IN SIZE BECAUSE OF THE ECONOMIES OF SCALE, REQUIRE LARGE AMOUNTS OF CAPITAL. THE LICENSING AND CONSTRUCTION PERIOD EXCEEDS 10 YEARS. FORECASTING WHEN THESE LARGE UNITS WILL BE NEEDED IS DIFFICULT. AS A RESULT, THE UTILITY IS OFTEN REQUIRED TO JUSTIFY LARGE RESERVE MARGINS WHICH DEVELOP FROM THE ADDITION OF LARGE BLOCKS OF GENERATION TO MEET A SLOWLY GROWING DEMAND. CLEARLY, A NEW APPROACH TO MEETING THIS DEMAND IS NEEDED.

EITHER THE LEAD TIMES FOR NEW LARGE PLANTS MUST BE RADICALLY SHORTENED AND THE FINANCIAL RISK REDUCED, OR A TECHNOLOGY MUST BE PROVEN THAT MINIMIZES THESE RISKS. THE TECHNOLOGY MUST SATISFY SOME BASIC REQUIREMENTS. FIRSTLY, COSTS AND RISKS MUST BE REDUCED THROUGH THE USE OF MODULAR PLANTS, MUCH OF IT FACTORY FABRICATED, THAT CAN BE RAPIDLY PERMITTED AND CONSTRUCTED OVER A RANGE OF SIZES TO MATCH MORE CLOSELY THE GROWTH IN LOAD. SECONDLY, THE TECHNOLOGY MUST REPRESENT AN IMPROVEMENT IN ENVIRONMENTAL CONTROLS TO MEET EXISTING AND EMERGING ENVIRONMENTAL REQUIREMENTS. ADDITIONALLY, THE TECHNOLOGY SHOULD BE ABLE

TO UTILIZE A RANGE OF COALS, INCLUDING ABUNDANT HIGH-SULFUR BITUMINOUS COAL.

A REVIEW OF EMERGING CLEAN-COAL TECHNOLOGIES LED US TO THE CONCLUSION THAT THE INTEGRATION OF COAL GASIFICATION TECHNOLOGY, PRODUCING CLEAN GAS, WITH THAT OF THE ADVANCED GAS-TURBINE COMBINED-CYCLE TECHNOLOGY, AFFORDS AN OPPORTUNITY FOR ECONOMICALLY AND RELIABLY MEETING FUTURE POWER REQUIREMENTS IN AN ENVIRONMENTALLY SUPERIOR MANNER.

RESPONDING TO THE DEPARTMENT OF ENERGY'S PROGRAM REGARDING EMERGING CLEAN-COAL TECHNOLOGIES, DETROIT EDISON, CONSUMERS POWER, ELECTRIC POWER RESEARCH INSTITUTE (EPRI), CONSOLIDATION COAL COMPANY, GENERAL ELECTRIC, AND THE SLAGGING GASIFICATION CONSORTIUM SUBMITTED A PROPOSAL TO DESIGN, FINANCE, CONSTRUCT AND OPERATE A PIONEER COMMERCIAL-SCALE MODULE OF A COMBINED CYCLE GASIFICATION FACILITY IN MICHIGAN.

DETROIT EDISON HAS AGREED TO ACT AS HOST UTILITY, IF SUCH A PROJECT GOES FORWARD. THE PROJECT WOULD UTILIZE A SLAGGING GASIFIER TO CONVERT 1800 TONS PER DAY OF HIGH-SULFUR BITUMINOUS COAL TO MEDIUM BTU GAS. THE CLEANED GAS WOULD BE USED TO GENERATE 180 NET MEGAWATTS OF ELECTRICITY USING AN ADVANCED GAS-TURBINE BASED COMBINED-CYCLE SYSTEM. SUCCESSFUL OPERATION OF THIS PIONEER DEMONSTRATION PROJECT WOULD ILLUSTRATE THE RELIABILITY, ECONOMY AND ENVIRONMENTAL PERFORMANCE OF THE TECHNOLOGY ON A COMMERCIAL SCALE SO THAT THE RISKS ASSOCIATED WITH NEW TECHNOLOGY CAN BE REDUCED TO AN ACCEPTABLE LEVEL IN AN INDUSTRY WHERE RELIABILITY OF SERVICE IS PARAMOUNT. THE ADVANTAGES OF THE INTEGRATED GASIFICATION COMBINED CYCLE CONCEPT ARE NUMEROUS. IT WOULD PERMIT THE USE OF HIGH-SULFUR, BITUMINOUS COAL AND STILL MEET STRICT ENVIRONMENTAL STANDARDS. MOST OF THE MAJOR COMPONENTS OF THE PROPOSED PLANT ARE CAPABLE OF BEING SHOP-FABRICATED. THEREFORE, COST WOULD BE REDUCED, QUALITY CONTROL IMPROVED, AND FIELD CONSTRUCTION TIME GREATLY REDUCED. THE PLANT COULD BE PERMITTED AND CONSTRUCTED IN STAGES ALLOWING A BETTER MATCHING OF CAPACITY WITH GROWTH IN DEMAND. PLANTS COULD BE LOCATED ON EXISTING SITES, EVEN IN URBAN AREAS. ENVIRONMENTAL PERFORMANCE WILL BE SUPERIOR TO AND MORE COST-EFFECTIVE THAN CURRENT COAL-BASED TECHNOLOGY. INDUSTRY STUDIES HAVE CONTINUALLY PREDICTED THE CAPITAL AND OPERATION COST ADVANTAGES OF INTEGRATED GASIFICATION COMBINED-CYCLE PLANTS UTILIZING THE SLAGGING GASIFIER.

DETROIT EDISON WAS THE FIRST UTILTIY TO ESTABLISH A MAJOR RESEARCH AND DEVELOPMENT FACILITY. FOR MANY YEARS WE HAVE DESIGNED AND CONSTRUCTED MAJOR POWER PLANTS ON OUR SYSTEM. WE BUILT AND OPERATED THE FIRST COMMERCIAL-SIZED RESEARCH BREEDER REACTOR AT FERMI I. WE HAVE A COMPETENT MULTI-DISCIPLINED ENGINEERING AND CONSTRUCTION MANAGEMENT STAFF. WE ARE JOINING A STRONG TEAM WITH A PROVEN TRACK RECORD AND COMMITMENT TO THE COMMERCIAL APPLICATION AND DEVELOPMENT OF COAL GASIFICATION TECHNOLOGY.

THE COSTS AND RISKS ASSOCIATED WITH PROVING THE LONG-TERM RELIABILITY OF ANY UPSCALED TECHNOLOGY UNDER UTILITY OPERATING CONDITIONS AND UNDER UTILITY REGULATION ARE EXTENSIVE. BENEFITS ARE NOT OFTEN COMMENSURATE WITH THE COSTS AND RISKS ASSOCIATED WITH "FIRST-OF-A-KIND" FACILITIES.

THEREFORE, I AM URGING YOU TODAY TO FUND FULLY THE CLEAN-COAL TECHNOLOGY PROGRAM AND TO ALLOW THE ELECTRIC UTILITY INDUSTRY, IN CONCERT WITH THE FEDERAL GOVERNMENT, TO ACCELERATE THE DEVELOPMENT OF TECHNOLOGIES LIKE THE INTEGRATED GASIFICATION COMBINED CYCLE. THE TIME IS NOW, TO BRING TO COMMERCIAL SCALE, THOSE TECHNOLOGIES THAT SHOW PROMISE FOR MEETING THE ENVIRONMENTAL AND ENERGY NEEDS OF THE NATION.

STATEMENT OF WILLIAM H. PEACE, VICE PRESIDENT AND GENERAL MANAGER, KRW ENERGY SYSTEMS, INC.

Senator McClure. Mr. William Peace.

Mr. Peace. Mr. Chairman and Senator Byrd, I am Bill Peace, vice president and general manager of of KRW Energy Systems.

This is an abbreviated version of my prepared testimony.

KRW is a fossil energy technology company which is 80 percent owned by Kellogg Rust, one of the Signal Companies, and 20 percent owned by Westinghouse Electric Corp.

KRW is best known for its fluid bed coal gasification technology but, as I will mention later, we are advancing the state of fossil energy art in related areas as well.

In the decade of the 1990's many forecasts, including recent projections by Westinghouse and DOE, indicate that the U.S. electric utilities will install about 100 million kilowatts of new generating capacity. Essentially all of this capacity will be coal fired.

Given today's status quo, nearly all of this coal-fired capacity will be pulverized coal units with scrubbers, a basic technology which is over 20 years old. Continuation of the status quo will yield no improvements in power costs and no environmental improvement.

There is an alternative to this status quo scenario. That alternative is coal gasification combined cycle units. The full-scale version of today's coal gasification combined cycle unit, like the operating cool water or planned keystone plants, will produce power at rates below conventional coal-fired units.

The key advantages of these plants are that they can be built in smaller modules on the order of 100 megawatts which are both easier to finance and can better respond to load growth uncertainties, and they can realize very low levels of atmospheric emissions.

A hot gas cleanup technology being developed jointed by KRW and DOE takes the coal gasification combined cycle concept one very competitive step further. Sulfur and other contaminants are removed in the gasifier and/or in the hot gas stream at significantly lower cost than today's coal sulfur removal systems.

Studies by KRW indicate that hot gas cleanup will reduce generating plant capital costs on the order of 20 to 30 percent. Efficiency improvements of approximately 15 percent will also be achievable. If one assumes that 50 percent of the new capacity mentioned earlier could be coal gasification combined cycle units with hot gas cleanup, ratepayer savings of $2.5 billion per year could be realized from these units.

Clearly, we should be planning to install coal gasification combined cycle units with hot gas cleanup as rapidly as utility load growth demands them. The hot gas cleanup technology, however, is not yet ready for commercial application.

KRW's development program with DOE, which is yielding results better than objectives, calls for about 18 months of ongoing development at Waltz Mill. This development effort would be phased into the design and construction of a demonstration plant which would utilize full-scale components and yet be modest in overall cost. We have proposed such a demonstration plant under the clean coal technology program.

Hot gas cleanup is only one example of the promising new fossil energy technologies which stand on the brink of commercial readiness. These are technologies which will yield real economic benefits to the consumer. They will even give us control of our energy future.

Mr. Chairman, we have all heard the arguments that we need not involve the Federal Government in energy technology demonstration. These arguments are, I am sure, well intentioned, but I find them rather simplistic. For example, it is argued let private industry build the demonstration plants. After all, if the technology is so good, private industry will see the incentives and will move ahead on its own.

With respect to plants which demonstrate new large-scale technologies several points needs to be understood. These plants are inherently more costly than subsequent commercial plants. The markets for new technology are speculative both with respect to size and timing, and there is a long wait, perhaps more than a decade, between initial investment and commercial success.

It is the consumer, Mr. Chairman, who needs the clean coal technology program. He needs proven new coal technologies not only to enhance his standard of living through lower power costs, more American jobs and cleaner environment, but to put him in control of his future. All of us want to be in control of those aspects of our lives which significantly affect our well-being. We are not in control of our energy future.

We will likely be engulfed on a future day by a massive demand for new coal based technology, but we won't be ready. It will take us 10 years to build plants that are cost effective because the technology won't be proven and the plants will cost twice their realistic cost because we won't know how to build them. We will pay dearly for this lack of control.

Thank you, Mr. Chairman, for your kind attention.

PREPARED STATEMENT

Senator McCLURE. Thank you. Your prepared statement will be placed in the record at this point.

[The statement follows:]

STATEMENT OF WILLIAM H. PEACE

Mr. Chairman, I'm William Peace, Vice President and General Manager, KRW Energy Systems Inc. KRW is a fossil energy technology company which is 80% owned by Kellogg Rust (one of the Signal Companies) and 20% owned by Westinghouse Electric Corporation. KRW is best known for its fluid bed coal gasification technology, but, as I'll mention later, we are advancing the state of fossil energy art in related areas, as well.

In America we have become complacent about energy. One of our national traits is a belief that the status quo will continue. We don't think strategically; we don't think about contingencies. We react only when an unfavorable environment engulfs us. We haven't learned that our reactive behavior is far more costly and far less effective than proactive behavior.

In view of our national complacency, its difficult to argue for the advancement of clean coal technologies with concepts like "energy independence" or "national security." Since oil and natural gas appear to be in plentiful supply, we don't see the need for independence, nor do we feel insecure. In the past, energy experts argued that: "We are not in control of our future." For example:

- We do not have long-term control of our energy supply, particularly in respect of fluid fuels like oil and natural gas. (This lack of control is demonstrated by our reserve to production ratios which are among the lowest of producing nations, and our failure to fundamentally alter the situation.)
- We do not have control of technologies which utilize our plentiful resources with more cost effectiveness and less environmental impact. (There has been no significant commercial deployment new coal-based technology in the last 20 years.)
- We do not recognize the impact of energy imports on our balance of payments and on domestic employment. (Studies have shown that the real costs of imported oil - including the effects of employment, economic growth and value of the dollar - are on the order of three times the nominal cost.)
- We are not committed to a strategy which is likely to put us in control of our future. (Reliance on "market forces" may be a strategy, but it does not place us in control.)

These arguments, while true, are seen as threadbare in the context of today's oil and gas abundance. Let me, therefore, set them aside and stay with a simple economic argument using an example which is familiar to me and relevant to our deliberations here.

In the decade of the 1990's, many forecasts, including recent projections by Westinghouse and DOE, indicate that the U.S. electric utilities will install about one hundred million kilowatts of new generation capacity, based on rather conservative assumptions about load growth (less than 3% per year). Essentially all of this capacity, which is equivalent to about 200 new generating units, will be coal-fired. Given today's status quo, nearly all of this coal-fired capacity will be pulverized coal units with scrubbers, a basic technology which is over 20 years old. Continuation of the status quo will yield no improvements in power cost and no environmental improvement. In fact we may see a rationalization of the utility industry as some (particularly smaller) utilities find it impossible to finance new generating plants to meet their customer demands.

There is an alternative to this status quo scenario. That alternative is coal gasification combined cycle (CGCC) units. The full scale version of today's CGCC unit (like the operating Cool Water or planned Keystone plants) would produce power at rates below conventional coal-fired units. Key advantages of these plants are that they can be built in smaller modules (on the order of 100 megawatts), which are both easier to finance and can better respond to load growth uncertainties, and they can realize very low levels of atmospheric emissions.

A hot gas cleanup technology, being developed jointly by KRW and DOE takes the CGCC concept one very competitive step further. Sulfur and other contaminants are removed in the gasifier and/or in the hot gas stream without expensive (and inefficient) heat exchange equipment and without the major capital costs which are associated with today's cold sulfur removal systems.

Studies by KRW indicate that hot gas cleanup will reduce generating plant capital costs on the order of 20 to 30%. Efficiency improvements of approximately 15% will also be achievable. Evaluations by DOE yield similar results. If one assumes that 50% of the new capacity mentioned earlier could be CGCC units with hot gas cleanup, rate payer savings of $2.5 billion per year could be realized from those new units. The bow on this bright package is that hot gas cleanup will mean substantially lower levels of atmospheric emissions, water usage and waste production than can be achieved with conventional, coal-fired units.

Clearly, we should be planning to install coal gasification combined cycle units with hot gas cleanup as rapidly as utility load growth demands them. The hot gas cleanup technology, however, is not yet ready for commercial application. KRW's development program with DOE, which is yielding results better than objectives, calls for about 18 months of on-going development at Waltz Mill. This development effort would be phased into the design and construction of a demonstration plant which would utilize full-scale components, yet could be modest in overall cost. We have proposed such a demonstration plant under the Clean Coal Technology Program.

Hot gas cleanup is only one example of the promising new fossil energy technologies which stand on the brink of commercial readiness. These are technologies which will yield real economic benefits to the consumer. They will even give us control of our energy future, should that concept be of value to us.

Mr. Chairman, we have all heard the arguments that we need not involve the federal government in energy technology demonstration. The arguments are, I'm sure, well intentioned, but I find them rather simplistic.

For example, it is argued: "Let private industry build the demonstration plants; after all, if the technology is so good, private industry will see the incentives, and will move ahead on its own!"

With respect to plants which demonstrate new, large scale technologies, several points need to be understood:

- These plants are inherently more costly than subsequent, commercial plants. (Studies recently performed by KRW show that power produced by a 500 MW CGCC plant would be about 20% less costly than actual, alternative generation costs, while power produced by the first, 100 MW plant would be 40% more costly than the alternative; this added cost is not acceptable in most utility rate bases.)

- The markets for the new technologies are somewhat speculative, both with respect to size and timing. (The 100,000,000 kilowatts of capacity additions mentioned earlier could vary significantly with the single most powerful cause of that variation being government fiscal policy.)

- For many of these new technologies, there is a long wait between the initial investment and the commercial success. (KRW's parent companies will wait about a decade and a half for a return on an investment which is now approaching $50,000,000 and will exceed $100,000,000).

- The consumer, more than anyone, benefits from these new technologies. The consumer sees not only lower power costs, as in our example, but also the benefits of more American jobs, lower environmental effects, and a more favorable trade balance.

It is the consumer, Mr. Chairman, who needs the Clean Coal Technology Program. He needs proven new coal technologies not only to enhance his standard of living but to put him in control of his future. All of us want to be in control of those aspects of our lives which significantly affect our well-being. We are not in control of our energy future! We will probably be engulfed on a future day by a massive demand for new coal-based technology. But we won't be ready. It will take us ten years to build plants that are cost effective (because the technology won't be proven), and the plants will cost twice their realistic cost (because we won't know how to build them). We will pay dearly for this lack of control.

Mr. Chairman, I thank you for your kind attention. America needs new fossil energy technology. The Clean Coal Technology Program can contribute strongly and constructively to this need.

Senator McCLURE. I notice that one of the participants in your proposal would be Montana Power. They have consistently over the years said that they were going to participate and they have consistently over the years not ponied up any money. And I notice in your proposal they don't again.

Mr. PEACE. Senator, I am a little confused. It is just the Signal Companies that made our proposal. Montana Power may be an MHD proposal. I don't know. But they are not, to my knowledge, included in ours, sir.

Senator McCLURE. Well, according to the proposal as I see it, it involves the Frank E. Bird generating station owned by Montana Power Co., and sited in Billings, MT.

Mr. PEACE. No, sir; we don't have a specific site for our proposal. We have talked to several utilities, but we have none identified as yet.

Senator McCLURE. Well, the submission to the DOE is what I am looking at.

[Pause.]

Senator McCLURE. I am told by staff it is the DOE summary of the proposal. Perhaps they have mischaracterized it.

Mr. PEACE. I am confused as well.

Senator McCLURE. Thank you very much.

Any questions, Senator Byrd?

Senator BYRD. No; thank you.

STATEMENT OF JOHN R. PATTERSON, GENERAL MANAGER-GAS TURBINE ENGINEERING AND MANUFACTURING DEPARTMENT, GAS TURBINE DIVISION, GENERAL ELECTRIC CO.

Senator McCLURE. Mr. John R. Patterson.

Mr. PATTERSON. Mr. Chairman and Senator Byrd, my name is John Patterson, and I am the general manager of the engineering and manufacturing department of the General Electric Gas Turbine Division.

I appreciate the opportunity to represent GE and to express our support of the clean coal technology initiative.

We endorse the concept of Federal assistance to accelerate the utilization of coal in ways that control environmental emissions to acceptable levels and that offer energy systems that produce the lowest possible cost of usable energy.

Success in using our most abundant energy resource enhanced the U.S. industrial base, our balance of payments, energy independence, and in the final analysis our employment.

Today I would like to describe three GE programs submitted in response to the clean coal technology program initiative, and also briefly comment on other programs that we are supporting.

First, the gas turbine division of GE is working under contract with DOE's Morgantown Energy Technology Center on technology programs for a new generation of coal gasification gas turbine energy systems for power production and for cogeneration.

Testing has shown low-cost commercial cyclones can remove enough impurities from hot coal gases to prevent hot corrosion or harmful deposits on turbine blades.

Also related experiments at the Morgantown Technology Center have shown promising results in removing sulfur compounds from hot coal gas by utilizing a zinc ferrite absorption media.

In carefully controlled experiments sulfur emission levels of very few parts per million have been demonstrated. The encouraging test results, coupled with parallel advancements in gas turbine technology open the door to a second generation of vastly simplified coal-fired combined cycle plants projected to cost only two-thirds as much as today's coal burning powerplants.

To demonstrate this concept GE has proposed a package integrated gasification steam injected gas turbine, what we call an IG-STIG, coupled with an advanced fixed bed gasifier and hot gas sulfur removal system. The system is about five megawatts in size and will offer a simplified coal gasification second generation advanced gas turbine cycle configuration that achieves reduced environmental emissions and capital costs at a high overall system efficiency.

We believe this product offering and subsequent modular plants in the 50- to 100-megawatt size range would closely match the load growth needs of many utility and industrial users.

In the proposed program testing will center around coal gas combustion in a General Electric LM–500 gas turbine, hot gas cleanup to remove particulates and sulfur and integration of the gas turbine with an advanced air blown fixed bed coal gasifier.

A 5-megawatt demonstration plant will be installed at the Niagara Mohawk Power Corp., site at Dunkirk, NY. The successful demonstration of this technology will provide a revolutionary clean coal option for utility and industrial users.

Next I would like to review the proposal submitted by our transportation systems business operation. This 6-year program has been designed to maximize the probability of coal fueled locomotive development success. Presently the U.S. railroads burn over 3 billion gallons of diesel fuel each year.

The proposed program will demonstrate direct burning of coal water mixtures in internal combustion engines on locomotives. Two prototype locomotives would be built, one using a coal burning diesel engine and the other using a coal burning gas turbine. In the last stage of development the diesel engine and gas turbine will each be mounted in a locomotive on GE's test track in Erie, and we anticipate a second stage of testing at the railroad research facility in Pueblo, CO.

We are confident the prototypes will supply meaningful information which will answer the technical, commercial, and environmental questions about coal fueled locomotive technology.

Success in transitioning back to coal burning locomotives will result in improvements in the U.S. trade balance of $2 to $4 billion per year and the reemployment of over 15,000 people and the development of 1,000 to 2,500 new jobs.

The third proposal submitted by GE environmental services would demonstrate in-duct scrubbing technology for application to coal-fired utility and large industrial plants. The concept involves a nonconventional flue gas desulfurization process for the removal of sulfur oxides and nitrogen oxides. This technology has the potential for retrofit to older boiler units at significantly lower costs and with less land use required.

The clean coal technology program is also an important element of an approach which GE calls progressive generation. The idea behind his concept is to help utilities deal with uncertain load growth and uncertain fuel prices. Progressive generation is a phased approach to capacity additions wherein simple cycle gas turbines are installed first to meet peaking requirements. Then heat recovery steam generators and steam turbines are added to obtain the high efficiency of combined cycle plants.

Finally, the addition of gasifiers to permit the use of low-priced coals as fuel for IGCC will be the ultimate payback for the power makers.

General Electric is currently supporting four major utilities who want to develop IGCC plant demonstrations in the clean coal technology. They are Virgina Electric Power, Niagara Mohawk, and you have just heard from Detroit Edison, along with Allegheny Power Systems.

The key ingredient that GE offers each of these projects is our new model F gas turbine, which is particularly adaptable to coal gasification plants. When it is introduced in 1987 this gas turbine will provide 80 percent more output than current generation gas turbines of the same size.

In the first stage of installation of these simple cycle gas turbines not only represent an investment of significantly less cost than a conventional plant, but from date of order they can be operating in less than 1 year.

In addition to IGCC programs, General Electric also fully supports other technologies for burning coal cleanly. For example, in a proposal by Florida Power and Light for early commercialization of turbocharged pressurized fluid bed combustion technology, they propose to repower an oil-fired 77-megawatt reheat steam turbine with a coal-fired pressurized fluid bed combustor.

General Electric will contribute to this program by modifying a 25-megawatt gas turbine for turbocharging and provide the hot gas cleanup system essential to maintain turbomachinery part lives.

In conclusion, I would like to comment, Mr. Chairman, that congressional leadership now offers the Nation a unique opportunity to accelerate the introduction of new clean coal technologies on a broad and diverse base.

Unfortunately, the financial dilemma facing many industrials and utilities, coupled with low-load growth, excess generating capacity, and uncertainty regarding future emission standards discourages the replacement of aging plants with more efficient, less costly, and more environmentally acceptable new coal plant technology. The risks associated with the adoption of these new technologies can thus be accelerated with Government support and financial assistance.

Both the energy producers and equipment manufacturers in partnership with the Government stand ready to commit substantial funds to make the U.S. energy efficient and independent by supporting the clean coal technology initiative.

General Electric aggressively encourages and applauds your affirmative action in developing this program.

Thank you.

PREPARED STATEMENT

Senator McCLURE. Thank you very much. Your prepared statement in its entirety will be placed in the record.

[The statement follows:]

STATEMENT OF JOHN R. PATTERSON

MY NAME IS JOHN PATTERSON. I AM THE GENERAL MANAGER OF THE ENGINEERING AND MANUFACTURING DEPARTMENT OF THE GENERAL ELECTRIC GAS TURBINE DIVISION. I APPRECIATE THE OPPORTUNITY TO REPRESENT GENERAL ELECTRIC TO EXPRESS OUR SUPPORT OF THE CLEAN COAL TECHNOLOGY INITIATIVE.

THE NEED TO DEVELOP OUR CAPABILITY TO USE COAL IN AN ENVIRONMENTALLY AND ECONOMICALLY ACCEPTABLE MANNER IS AS CRITICAL TODAY AS IT WAS WHEN THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION WAS ESTABLISHED IN 1974 AND THE DEPARTMENT OF ENERGY IN 1977. WE ENDORSE THE CONCEPT OF FEDERAL ASSISTANCE TO ACCELERATE THE UTILIZATION OF COAL IN WAYS THAT CONTROL ENVIRONMENTAL EMISSIONS TO ACCEPTABLE LEVELS AND THAT OFFER ENERGY SYSTEMS THAT PRODUCE THE LOWEST POSSIBLE COST OF USABLE ENERGY. SUCCESS IN USING OUR MOST ABUNDANT AND ACCESSIBLE ENERGY RESOURCE ENHANCES THE U.S. INDUSTRIAL BASE, BALANCE OF PAYMENTS, ENERGY INDEPENDENCE, AND IN THE FINAL ANALYSIS, EMPLOYMENT.

TODAY, I WOULD LIKE TO DESCRIBE THREE GENERAL ELECTRIC PROGRAMS SUBMITTED IN RESPONSE TO THE CLEAN COAL TECHNOLOGY PROGRAM INITIATIVE AND ALSO BRIEFLY COMMENT ON OTHER PROGRAMS WE ARE SUPPORTING.

FIRST, THE GAS TURBINE DIVISION OF GE IS WORKING UNDER CONTRACT WITH DOE'S MORGANTOWN ENERGY TECHNOLOGY CENTER ON TECHNOLOGY PROGRAMS THAT HAVE GIVEN IMPETUS TO A NEW GENERATION OF COAL GASIFICATION/GAS TURBINE ENERGY SYSTEMS FOR STRAIGHT POWER PRODUCTION AND COGENERATION MARKETS. RECENT TESTING HAS SHOWN LOW COST, COMMERCIALLY DESIGN CYCLONES CAN REMOVE ENOUGH IMPURITIES FROM HOT COAL GAS TO PREVENT CORROSION OR HARMFUL DEPOSITS ON TURBINE BLADES.

ALSO, RELATED EXPERIMENTS AT THE MORGANTOWN ENERGY TECHNOLOGY CENTER HAVE SHOWN PROMISING RESULTS IN REMOVING SULFUR COMPOUNDS FROM HOT COAL GAS BY UTILIZING A ZINC-FERRITE ABSORPTION MEDIA. IN CAREFULLY CONTROLLED EXPERIMENTS, SULFUR EMISSION LEVELS OF VERY FEW PARTS PER MILLION HAVE BEEN DEMONSTRATED. THESE ENCOURAGING TEST RESULTS, COUPLED WITH PARALLEL ADVANCEMENTS IN GAS TURBINE TECHNOLOGY, OPEN THE DOOR TO A SECOND GENERATION OF VASTLY SIMPLIFIED, COAL-FIRED COMBINED CYCLE PLANTS PROJECTED TO COST ONLY TWO-THIRDS AS MUCH AS TODAY'S COAL BURNING POWER PLANTS.

TO DEMONSTRATE THIS CONCEPT, GE HAS PROPOSED A PACKAGED, INTEGRATED GASIFICATION-STEAM INJECTED GAS TURBINE (OR IG-STIG), COUPLED WITH AN ADVANCED FIXED BED GASIFIER AND A HOT GAS SULFUR REMOVAL SYSTEM. THE SYSTEM IS ABOUT 5 MW IN SIZE AND WILL OFFER A SIMPLIFIED COAL GASIFICATION SECOND GENERATION ADVANCED GAS TURBINE CYCLE CONFIGURATION THAT ACHIEVES REDUCED ENVIRONMENTAL EMISSIONS AND CAPITAL COST AT HIGH OVERALL SYSTEM EFFICIENCY. WE BELIEVE THAT THIS PRODUCT OFFERING, AND SUBSEQUENT MODULAR PLANTS IN THE 50 TO 100 MW SIZE RANGE, WOULD CLOSELY MATCH THE LOAD GROWTH NEEDS OF MANY UTILITY AND INDUSTRIAL USERS. PLANTS OF THIS SIZE WILL SIGNIFICANTLY REDUCE THE DOWNSIDE RISK OTHERWISE ASSOCIATED WITH ADDING LARGER PLANTS TO THE RATE BASE.

IN THE PROPOSED PROGRAM, TESTING WILL CENTER AROUND COAL GAS COMBUSTION IN A GENERAL ELECTRIC LM500 GAS TURBINE, HOT GAS CLEANUP TO REMOVE PARTICULATES AND SULFUR, AND INTEGRATION OF THE GAS TURBINE WITH AN ADVANCED AIR BLOWN FIXED-BED COAL GASIFIER AND HOT GAS CLEANUP SYSTEM. A 5 MW DEMONSTRATION PLANT WILL BE INSTALLED AT THE NIAGARA MOHAWK POWER CORPORATION SITE AT DUNKIRK, NEW YORK. THE SUCCESSFUL DEMONSTRATION OF THIS TECHNOLOGY WILL PROVIDE A REVOLUTIONARY CLEAN COAL OPTION FOR UTILITY AND INDUSTRIAL USERS.

NEXT, I WOULD LIKE TO REVIEW THE PROPOSAL SUBMITTED BY GENERAL ELECTRIC'S TRANSPORTATION SYSTEMS BUSINESS OPERATION. AIMED AT THE TRANSPORTATION SECTOR, THIS 6-YEAR PROGRAM HAS BEEN DESIGNED TO MAXIMIZE THE PROBABILITY OF COAL-FUELED LOCOMOTIVE DEVELOPMENT SUCCESS. PRESENTLY, THE U.S. RAILROADS BURN OVER 3.0 BILLION GALLONS OF DIESEL FUEL EACH YEAR. CONVERSION OF THE RAIL FLEET TO COAL WILL REDUCE OUR OIL IMPORT BILL BY OVER $1.8 BILLION.

THE PROPOSED PROGRAM WILL DEMONSTRATE DIRECT BURNING OF COAL WATER MIXTURES IN INTERNAL COMBUSTION ENGINES ON LOCOMOTIVES. TWO PROTOTYPE LOCOMOTIVES WOULD BE BUILT; ONE USING A COAL BURNING DIESEL ENGINE, THE OTHER USING A COAL BURNING GAS TURBINE. IN THE LAST STAGE OF DEVELOPMENT, THE DIESEL ENGINE AND GAS TURBINE WILL EACH BE MOUNTED IN A LOCOMOTIVE ON GE'S TEST TRACK IN ERIE, AND WE ANTICIPATE A SECOND STAGE OF TESTING AT THE RAILROAD RESEARCH FACILITY IN PUEBLO, COLORADO.

WE ARE CONFIDENT THE PROTOTYPES WILL SUPPLY MEANINGFUL INFORMATION WHICH WILL ANSWER THE TECHNICAL, COMMERCIAL AND ENVIRONMENTAL QUESTIONS ABOUT COAL FUELED LOCOMOTIVE TECHNOLOGY. SUCCESS IN TRANSITIONING BACK TO COAL BURNING LOCOMOTIVES WILL RESULT IN IMPROVEMENTS IN THE U.S. TRADE BALANCE OF $2-4 BILLION PER YEAR, THE RE-EMPLOYMENT OF OVER 15,000 PEOPLE, AND DEVELOPMENT OF 1000-2500 NEW JOBS.

THE THIRD PROPOSAL, SUBMITTED BY GENERAL ELECTRIC'S ENVIRONMENTAL SERVICES, WOULD DEMONSTRATE "IN-DUCT SCRUBBING" TECHNOLOGY FOR APPLICATION TO COAL-FIRED UTILITY AND LARGE INDUSTRIAL PLANTS. THE CONCEPT INVOLVES A NONCONVENTIONAL FLUE GAS DESULFURIZATION PROCESS FOR THE REMOVAL OF SULFUR OXIDES AND NITROGEN OXIDES. THIS TECHNOLOGY HAS THE POTENTIAL FOR RETROFIT TO OLDER BOILER UNITS AT SIGNIFICANTLY LOWER COST AND WITH LESS LAND USE REQUIRED. AFTER TESTING ON THE PILOT PLANT, OWNERSHIP OF THE FACILITY WILL BE TURNED OVER TO THE UTILITY PARTNER -- AMERICAN ELECTRIC POWER.

THE CLEAN COAL TECHNOLOGY PROGRAM IS ALSO AN IMPORTANT ELEMENT OF AN APPROACH WHICH GE CALLS PROGRESSIVE GENERATION. THE IDEA BEHIND THIS CONCEPT IS TO HELP UTILITIES DEAL WITH UNCERTAIN LOAD GROWTH AND UNCERTAIN FUEL PRICES. PROGRESSIVE GENERATION IS A PHASED, EVOLUTIONARY APPROACH TO CAPACITY ADDITIONS WHEREIN SIMPLE CYCLE GAS TURBINES ARE INSTALLED FIRST TO MEET PEAKING NEEDS. THEN, HEAT RECOVERY STEAM GENERATORS AND STEAM TURBINES ARE ADDED TO OBTAIN THE HIGH EFFICIENCY OF COMBINED-CYCLE PLANTS. FINALLY, THE ADDITION OF GASIFIERS TO PERMIT USE OF LOW PRICE COALS AS FUEL FOR AN IGCC WILL BE THE ULTIMATE PAYBACK FOR POWER MAKERS.

GENERAL ELECTRIC IS CURRENTLY SUPPORTING FOUR MAJOR UTILITIES WHO WANT TO DEVELOP IGCC PLANT DEMONSTRATIONS IN THE CLEAN COAL TECHNOLOGY PROGRAM. ONE OR TWO WOULD PROCEED USING THE PROGEN APPROACH, THE OTHERS WOULD GO DIRECTLY WITH IGCC. THEY ARE VIRGINIA ELECTRIC POWER, NIAGARA MOHAWK, DETROIT EDISON AND ALLEGHENY POWER SYSTEMS.

THE KEY INGREDIENT THAT GENERAL ELECTRIC OFFERS EACH OF THESE PROJECTS IS OUR NEW MODEL F GAS TURBINE WHICH IS PARTICULARLY ADAPTABLE TO COAL GASIFICATION PLANTS. WHEN INTRODUCED IN 1987, THIS GAS TURBINE WILL PROVIDE 80% MORE OUTPUT THROUGH GROWTH IN AIRFLOW AND FIRING TEMPERATURE THAN CURRENT GENERATION GAS TURBINES OF THE SAME SIZE. IN THE FIRST STAGE OF INSTALLATION, THESE SIMPLE CYCLE GAS TURBINES NOT ONLY REPRESENT AN INVESTMENT OF SIGNIFICANTLY LESS COST THAN A CONVENTIONAL PLANT, BUT FROM DATE OF ORDER THEY CAN BE OPERATING IN LESS THAN A YEAR.

IN ADDITION TO IGCC PROGRAMS, GENERAL ELECTRIC ALSO FULLY SUPPORTS OTHER TECHNOLOGIES FOR BURNING COAL CLEANLY. FOR EXAMPLE, IN A PROPOSAL BY FLORIDA POWER AND LIGHT FOR EARLY COMMERCIALIZATION OF TURBOCHARGED

PRESSURIZED FLUID-BED COMBUSTION TECHNOLOGY. THEY PROPOSE TO REPOWER AN OIL-FIRED, 77 MW REHEAT STEAM TURBINE, WITH A COAL-FIRED PRESSURIZED FLUID-BED COMBUSTOR. GENERAL ELECTRIC WILL CONTRIBUTE TO THIS PROGRAM BY MODIFYING A 25 MW GAS TURBINE FOR TURBOCHARGING, AND PROVIDE THE HOT-GAS CLEANUP SYSTEM ESSENTIAL TO MAINTAIN TURBOMACHINERY PART LIVES.

IN CONCLUSION I WOULD LIKE TO COMMENT, MR. CHAIRMAN, THAT CONGRESSIONAL LEADERSHIP NOW OFFERS THE NATION A UNIQUE OPPORTUNITY TO ACCELERATE THE INTRODUCTION OF NEW CLEAN COAL TECHNOLOGIES ON A BROAD AND DIVERSE BASIS.

UNFORTUNATELY, THE FINANCIAL DILEMMA FACING MANY INDUSTRIES AND UTILITIES, COUPLED WITH LOW LOAD GROWTH, EXCESS GENERATING CAPACITY AND UNCERTAINTY REGARDING FUTURE EMISSION STANDARDS, DISCOURAGES THE REPLACEMENT OF AGING PLANTS WITH MORE EFFICIENT, LESS COSTLY, AND MORE ENVIRONMENTALLY ACCEPTABLE NEW COAL PLANT TECHNOLOGIES. THE RISKS ASSOCIATED WITH ADOPTION OF THESE NEW TECHNOLOGIES CAN BEST BE ACCELERATED WITH GOVERNMENT SUPPORT AND FINANCIAL ASSISTANCE.

BOTH THE ENERGY PRODUCERS AND EQUIPMENT MANUFACTURERS, IN PARTNERSHIP WITH THE GOVERNMENT, STAND READY TO COMMIT SUBSTANTIAL FUNDS TO MAKE THE U.S. ENERGY EFFICIENT AND INDEPENDENT BY SUPPORTING THE CLEAN COAL TECHNOLOGY INITIATIVE. GENERAL ELECTRIC AGGRESSIVELY ENCOURAGES AND APPLAUDS YOUR AFFIRMATIVE ACTION IN DEVELOPING THIS PROGRAM. THANK YOU.

SUBCOMMITTEE RECESS

Senator McClure. That will conclude our session this morning.

We will reconvene at 2 p.m., and I thank all witnesses for helping us keep on schedule this morning. We will have a similar difficulty this afternoon as we are going to attempt to hear 20 witnesses in the time allotted us this afternoon.

Thank you very much.

The committee will stand in recess.

[Whereupon, at 12:10 p.m., the subcommittee was recessed, to reconvene at 2 p.m., the same day.]

(AFTERNOON SESSION, 1:57 P.M., THURSDAY, MAY 16, 1985)

NONDEPARTMENTAL WITNESSES

STATEMENT OF DANIEL A. KLEMAN, CITY MANAGER, CITY OF TALLAHASSEE, FL

ACCOMPANIED BY RICHARD KENT, ASSISTANT DIRECTOR OF THE CITY OF TALLAHASSEE ELECTRIC DEPARTMENT

Senator JOHNSTON [presiding]. The committee will come to order.

It is a few minutes early, but we have a very large witness list, as you can all see, and so I thought we might get started just a few moments early.

Chairman McClure told me that we had an excellent session this morning and I look forward also to an excellent session this afternoon on clean coal technology.

I think all of you have the witness list and you can see the number of witnesses we have and you can also see the time schedule on there which we want to adhere to to the minute.

So if we may begin with Dr. Daniel Kleman, who is the city manager of the city of Tallahassee.

Welcome, Dr. Kleman.

By the way, all testimony will be put into the record as if read in full, and if we are going to adhere to the time schedule there are probably going to have to be summaries of the testimony.

Mr. KLEMAN. Thank you, Senator.

My name is Dan Kleman. I am the city manager of Tallahassee. With me today is Rich Kent who is the assistant director of the city of Tallahassee Electric Department.

On behalf of the city of Tallahassee we are pleased to present testimony today for the record on the emerging clean coal technology program.

The city of Tallahassee, in addition to providing a variety of traditional municipal services, also owns and operates an electric utility where we provide electricity to approximately 60,000 customers. And as a generating utility we generate electricity by burning oil, natural gas, we have some nuclear capacity, and also a small hydro electric plant.

The city of Tallahassee believes strongly that the emerging clean coal technology program is necessary in order to demonstrate new technology for power generation which is both cost effective and environmentally healthy and sound.

If the clean coal technology program does not go forward, we believe that new innovative technologies which would benefit society by reducing acid rain and foster the use of abundant domestic energy sources such as coal would not be demonstrated soon enough for America's electric utilities when they reenter the marketplace, as we intend to, for new powerplant construction in the early to mid 1990's.

We think this is an important issue because it links the issues of the energy crisis of the seventies and today's concerns about the economy and an important need to produce energy at a reasonable cost. We think it is important that as a Nation we reduce our dependency on foreign sources for oil and on foreign sources when that oil is used for the generation of electricity.

The city of Tallahassee has a particular interest in the issue of fluidized bed combustion as an emerging technology, and we come to that interest primarily as a result of environmental groups in Tallahassee who have expressed a concern every time that the city of Tallahassee has begun to discuss the subject of building a new coal-fired powerplant.

Those environmental groups and the citizens in Tallahassee have continued to urge the city government of Tallahassee as it looks at its future for energy sources that we look to emerging technologies such as fluidized bed combustion as a way for the city of Tallahassee to be able to burn coal, but to do so in a way that would be considered environmentally acceptable.

The city of Tallahassee in our capacity as a government is obviously interested in being responsive to our citizens, and as such we have undertaken a serious inquiry into the use of fluidized bed combustion as the clean coal technology in which we have a particular interest.

We believe that it is important that the technology be developed during the eighties for utilities to be able to use this type of technology in a commonplace manner during the 1990's when many electric utilities will be expanding and looking for additional powerplant capacity.

We think fluidized bed combustion particularly has advantages in the area of improving the quality of the ash that is produced, in reducing the amount of ash, in reducing the fuel preparation requirements, in allowing us the flexibility of burning a variety of quality fuels, of reducing the nitrous oxygen emissions, improving our economies, both in terms of operating and capital costs, and eliminating the need for very expensive scrubber systems, essentially flue gas desulfurization systems.

In our opinion, the clean coal technology program is essential to an electric utility like the city of Tallahassee.

We have submitted a statement of interest to the U.S. Department of Energy to take an existing unit, which is burning oil and natural gas, and to utilize a circulating fluidized bed technology in that plant which would generate 235 megawatts of electricity and would use an estimated 640,000 tons of high sulfur coal from the eastern United States.

PREPARED STATEMENT

We believe that that is a particularly important technology for us. We believe that at present it carries such a high risk that the city electric utility could not undertake it all by itself without the assistance of this demonstration program, and to that end we urge continued support for the clean coal technology program.

Thank you.

[The statement follows:]

STATEMENT OF DANIEL A. KLEMAN

Mr. CHAIRMAN, Members of the Appropriations Subcommittee on the Department of Interior and Related Agencies and Staff, the City of Tallahassee, Florida, is pleased to present this testimony for the record on the Emerging Clean Coal Technology Program. The City of Tallahassee feels that the Emerging Clean Coal Technology Program is necessary in order to demonstrate new technology for power generation which is both cost effective and environmentally healthy and sound. If the Emerging Clean Coal Technology Program were not to go forward, then new innovative technologies which would benefit society by reducing acid rain and foster the use of abundant domestic energy sources such as coal would not be demonstrated soon enough for at least America's electric utilities when they re-enter the marketplace for new apparatus in the early to mid-1990's.

During the mid-1970's, when motorists in the United States were introduced for the first time to dollar-a-gallon gas and long lines at the pumps, the public learned that this country had an energy crisis. Today, after nearly 10 years of rising prices and even more uncertain energy supplies, the crisis has drifted away from public thought. Today's concentration is on the economy: high interest rates, unemployment, low productivity and America's decline in the world marketplace. While many people fail to recognize a critical connection between the two topics, there is a key link - it is America's ability to produce electricity at a reasonable cost.

Much of the economic difficulty that confronts the power industry and the nation today has its roots in the rapid escalation of petroleum prices during the decade of the 70's. Thirty-six percent of all U.S. electrical generating capacity is oil or gas fired, equivalent to 2.6 million barrels of oil per day. About 40 percent of the oil and 80 percent of the natural gas used in the United States are for heating (space, water and industrial process heat), much of which can be done efficiently with electricity.

The United States depends on foreign sources to meet about 30 percent of its total oil demand. The economic impact of the oil consumed by electric utilities totaled approximately $13 billion in 1981. This is equivalent to 29 percent of imports from OPEC and equal to approximately half our merchandise trade deficit for that year. To be competitive economically, the United States must utilize its coal resources. A 1980 survey of 44 U.S. utilities showed that coal maintained a dramatic cost advantage on a kwhr basis - 2.5 cents for coal versus 5.4 cents for oil. In spite of this domestic advantage, however, we continue to rely on higher-priced, foreign fuels. With deregulation of natural gas pricing, gas, which is a substitute fuel for many other uses, is expected to reach a value close to oil in five to 10 years.

Fluidized bed combustion can provide utilities the ability to fire U.S. coal while keeping the costs for environmental compliance under control. We believe the fluidized bed combustion system when compared to a pulverized coal boiler with flue gas desulfurization (FGD) would offer the following advantages to the utility industry:

reduce ash/waste disposal quantities,

superior ash physical, chemical and leeching properties,

reduce fuel preparation requirements,

flexibility to burn variable quality fuels, reduce NOX emissions,

improve economics, both capital and operating,

eliminates the need for dry or wet FGD systems,

chlorine and fluroine compounds are largely retained in the ash,

improve siting flexibility since FGD systems are not required.

In our opinion, the Emerging Clean Coal Technology Program is necessary to demonstrate the circulating fluidized bed boiler technology since it has not been demonstrated at this size previously. The risk associated for a small municipal utility to proceed with innovative technology which we believe could provide the country with the advantages stated previously is much greater than what we can afford to assume by ourselves, especially when this technology would have wide application to all other generating utilities due to the size of the boiler and quality of coal that would be demonstrated through our project and other innovative technologies that have been proposed. The role of the Federal Government in assisting the American utilities in bringing to the commercial forefront new technology through federal incentives including grants, loan guarantees, low interest loans or price supports is vital when the significant benefits to our society from these technologies is considered. In addition, the reasons for the development of new and innovative technologies as were recommended in the Emerging Clean Coal Technology Program is based on the overall impact on society in the areas of environmental protection as mandated by federal EPA regulations, national energy security and quality of life in general.

The circulating fluidized bed (CFB) technology offers several unique advantages over bubbling fluidized bed (BFB) technology.

The CFB can burn a wider variety of fuels including coals with higher sulfur and higher ash contents, lignite, peat, wood, bark, petroleum coke and other refinery residues. Typically, many of these fuels are difficult and/or uneconomical to burn in BFB systems. The CFB also has sufficient flexibility to burn different types of fuels in the same combuster. This fact reduces dependency on oil and gas.

Higher carbon burn-out (over 99%) can be achieved for all fuels including those with low heating values and/or low proportion of volatiles contributing to higher overall thermal efficiencies (90-92% based on the lower heating value).

Higher degree of desulfurization can be achieved. Over 90% SO2 removal can be obtained with a calcium-to-sulfur (Ca/S) molar ratio of 1.5.

Lower NOX emissions (less than 300 volumetric parts per million, vppm) can be obtained through "staging" the combustion air. This responds to the overall objective of improving the quality of the air.

Lower consumption of limestone is required for desulfurization.

CFB's offer simpler fuel preparation and feed systems.

In summary, CFB combustion is very effective in situations where hard-to-burn and/or low grade fuels are to be utilized, where strict environmental control is required, and where an efficient and flexible operation is required. By utilizing these less desirable fuels in a utility boiler, more natural gas will become available for smaller application such as at the house and small business where environmental controls are less applicable. The CFB is clearly a very versatile system which can be used for thermal energy production in industry and for electricity production in utility power plants and cogeneration plants.

The City of Tallahassee submitted to the U.S. Department of Energy a Statement of Interest for our Arvah B. Hopkins Generating Station, Unit #2 for a circulating fluidized bed replacement boiler. Our proposed circulating fluidized bed combustion boiler would utilize 640,000 tons of high sulfur eastern coal per year producing 235 megawatts of power. We believe the existing turbine generator could be readily uprated and have its useful life extended thereby producing an additional 5% to 15% of economical electric power.

Therefore, we feel the Emerging Clean Coal Technology Program must go forward and several areas of innovative technology should be demonstrated. Based on the advantages and merits as discussed above we are convinced one of these technologies should be circulating fluidized bed combustion.

Senator JOHNSTON. Mr. Kleman, you are exactly on time and you have made an excellent statement. I have read your written statement as well as listened to you and I share your enthusiasm for the circulating fluidized bed.

For the benefit of everyone, let me say that I was one of the original sponsors of the $750 million clean coal technology efforts and have a very strong and continuing interest in these proposals.

The reaction from industry has far exceeded that which most observers expected. The number of proposals which were received in response to our solicitation—and yours is a good example of the kind of good things we can do with that technology—shows this.

Thank you very much.

Mr. KLEMAN. Thank you, Senator.

STATEMENT OF E.L. DAMAN, SENIOR VICE PRESIDENT, FOSTER WHEELER CORP.

Senator JOHNSTON. Next we would like to welcome Mr. E.L. Daman from Foster Wheeler Energy Corp., who is going to talk about coal combustion.

Mr. Daman, welcome.

Mr. DAMAN. Thank you, Senator.

Foster Wheeler Corp., is grateful for the invitation to testify on this very important subject. My company heartily endorses Federal support for a clean coal technology program. We believe that it is unrealistic to expect significant progress in the commercialization of technically advanced processes designed to achieve reduced environmental contamination without such support.

I would like to tell you briefly about three technologies which we believe should receive attention under such a program. Each of these technologies, if successfully demonstrated on a commercial scale, would make an important contribution to the achievement of a cleaner environment at competitive costs and each of these technologies if commercialized would provide opportunities to American industry to increase exports of equipment, services, and technology.

Yet for many reasons it is impossible for either the users of the technologies or the suppliers to assume the risks associated with the inevitable scaleup of these technologies to commercialized systems.

The reason for this can best be summarized by stating that the users, like the electric utilities, are discouraged or prevented from taking the necessary risks by regulatory bodies and the suppliers are prevented and discouraged from taking such risks because it could expose all or a substantial part of a company's assets.

Invariably when we talk about scaleup to commercial systems, be they combustion, gasification, liquefaction, gas scrubbing, or what-have-you, we are talking about exposures of $50 to $300 million and more.

Without Government's participation in sharing the risks which need to be taken to bring better technologies to the stage of commercialization, nothing will happen and nothing of any significance can possibly happen.

One thing we can be certain about, however, is this. If the U.S. Government and the American industry do not bring some of the clean coal technologies to commercialization, we will be importing them.

The solicitation of interest for emerging clean coal technologies has generated a significant response from industry. Three of Foster Wheeler's responses dealt with pressurized fluidized bed combustion, gasification combined cycle, dry sorbent injection in furnaces, and some others.

I have attached to my testimony a schematic diagram to make it a bit easier to understand what they are.

The first two technologies I mentioned, which briefly are called PFBC and GCC, offer similar benefits. These are reduction of particulates, sulfur and nitrogen oxides far beyond those achievable today; modular construction to achieve reduced construction time and cost over what is achievable today; improved plant thermal efficiencies. The third, commonly known as the LIMB technology, which I mentioned, has the potential of reducing emissions in existing plants for a relatively low investment. By combining this technology with front-end cleanup systems, it may also be competitive for new plants.

It is worthwhile to expand briefly on the importance of PFBC and GCC technologies in this respect. The modular construction of these plants allows the shop assembly of components of approximately 100 megawatt size units. The impact this will have on cost and schedule has been noted before.

The importance of this, however, goes beyond that since it will give utilities the opportunity to add capacity in small increments which will help them with financing and at a time of uncertainty concerning load growth, allows them to delay decisions about capacity additions.

Also it needs to be understood that both of these technologies offer substantial potential for dramatic future improvement in generating efficiencies with the obvious benefits of lower cost of electricity.

The pressurized fluidized bed, the gentleman who will follow me will talk in some detail about it, and I will, therefore, eliminate that from my prepared statement at this time. It is in the record. This is a project led by Wisconsin, which you will hear about briefly.

The gasification combined cycle we propose to support will be located at West Virginia University and it is designed to demonstrate recent findings of a simplified gas cleanup system pioneered by DOE's Morgantown Energy Technology Center.

The gasifier we intend to use is a fluid bed gasifier developed by the institute of gas technology with which Foster Wheeler has had long involvement.

The approach here is to demonstrate that this gasifier, modified to include in-process sulfur removal, can produce fuel gas suitable for gas turbine firing. The program is designed to allow the development to proceed in steps. In each step useful energy will be supplied to the user in the form of fuel gas, steam, and electric power.

The results from this demonstration would provide a modular gasifier which can be used in GCC systems generating 100 megawatts of electric power per module with all the benefits previously mentioned.

The LIMB technology, which is one of the items in our submission, once qualified would offer a method of substantially reduced emissions of sulfur and nitrogen oxides from existing installations in a very short timeframe.

Foster Wheeler's low NO_x burner has been shown to have superior characteristics well suited for this technology. With the addition of emerging front-end coal cleaning processes, this system would also be of value for new pulverized coal-fired installations.

Successful demonstration of this technology would provide the industry with a powerful method to reduce sulfur and nitrogen oxides quickly.

Thank you very much.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Daman. Your statement will be included in the record.

[The statement follows:]

Statement of E.L. Daman

My company heartily endorses Federal support for a Clean Coal Technology Program. We believe that it is unrealistic to expect significant progress in the commercialization of technically advanced processes designed to achieve reduced environmental contamination without such support.

I would like to tell you about three technologies which we believe should receive attention under such a program. Each of these technologies, if successfully demonstrated on a commercial scale, would make an important contribution to the achievement of a cleaner environment at competitive costs; each of these technologies, if commercialized, would provide opportunities to American Industry to increase exports of equipment, services, and technology.

Yet for many reasons it is impossible for either the users of the technologies or the suppliers to assume the risks associated with the inevitable scale-up of these technologies to commercial-size systems.

The reasons for this can best be summarized by stating that the users, like the electric utilities, are discouraged or prevented from taking the necessary risks by regulatory bodies, and the suppliers are prevented and discouraged from taking such risks because it could expose all or a substantial part of a company's assets.

Invariably when we talk about scale-up to commercial-size systems, be they combustion, gasification, liquefaction, gas scrubbing, or what have you, we are talking about exposures of 50 to 300 MM dollars and more.

Without Government's participation in sharing the risks which need to be taken to bring better technologies to the stage of commercialization, nothing will happen--nothing of any significance can happen.

One thing we can be certain about, however, is this--if the U.S. Government and American Industry do not bring some of the Clean Coal Technologies to commercialization, we will be importing them!

The Solicitation of Interest for Emerging Clean Coal Technologies has generated a significant response from industry. Foster Wheeler's response concentrated on three technologies:

1. Pressurized Fluidized Bed Combined Cycle (PFBC)
2. Gasification Combined Cycle (GCC)
3. Dry Sorbent Injection in Furnaces (LIMB)

A schematic diagram showing each system is attached.

The first two (i.e., PFBC and GCC) offer similar benefits. These are: (A) Reduction of particulates, sulfur, and nitrogen oxides far beyond those achievable today; (B) Modular construction to achieve reduced construction time and cost over what is achievable today; (C) Improved plant thermal efficiencies. The third, commonly known as the LIMB Technology, has the potential of reducing emissions in existing plants for a relatively low investment cost. By combining this technology with front end cleanup systems, it may also be competitive for new plants.

It is worthwhile to expand a little on the importance of the PFBC and GCC technologies in this respect--the modular construction of these plants allows shop assembly of components of approximately 100 MW size units. The impact this will have on cost and schedule has been noted above. The importance of this, however, goes beyond that since it will give utilities the opportunity to add capacity in small steps which will help them with financing and, at a time of uncertainty concerning load growth, allows them to delay decisions about capacity additions.

Also, it needs to be understood that both of these technologies offer substantial potential for dramatic future improvements in generating efficiencies with the obvious benefits of lower cost of electricity and further improvements in environmental performance.

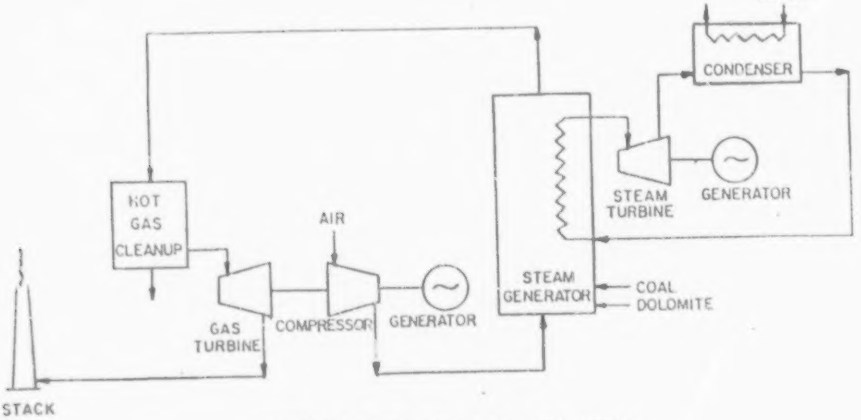
The Pressurized Fluidized Bed Combustion Process is ready for commercial demonstration now in a configuration we favor--that is, a turbocharged cycle where the inlet temperature to the gas turbine expander is reduced to a level where potential corrosion and deposition problems in the turbine are reduced significantly. In this cycle particulate removal in the flue gas stream is carried out at temperatures which allow the use of existing technology--a key point. The efficiency of a turbocharged cycle is a little lower than a PFBC cycle with a high temperature turbine. The project in which we are participating and which is led by Wisconsin Electric Power will be put together in such a way that the transition to the higher efficiency, higher temperature cycle can be made when high temperature particulate removal equipment is proven. Our approach will allow us to concentrate on working out and demonstrating the heart of the system, which is the combustor, and to demonstrate the operating characteristics of a PFBC cycle. The unit to be built is an 80 MW PFB boiler system complete with a gas turbine expander of proven design which will repower an existing steam turbine plant. This, in our opinion, is the most prudent and effective way to qualify the PFBC cycle for utility use.

The Gasification Combined Cycle Project we are supporting and leading will be located at West Virginia University and is designed to demonstrate recent findings of a simplified gas cleanup system pioneered by DOE's Morgantown Energy Technology Center. The gasifier we intend to use is a Fluid Bed Gasifier developed by the Institute of Gas Technology known as U-Gas.

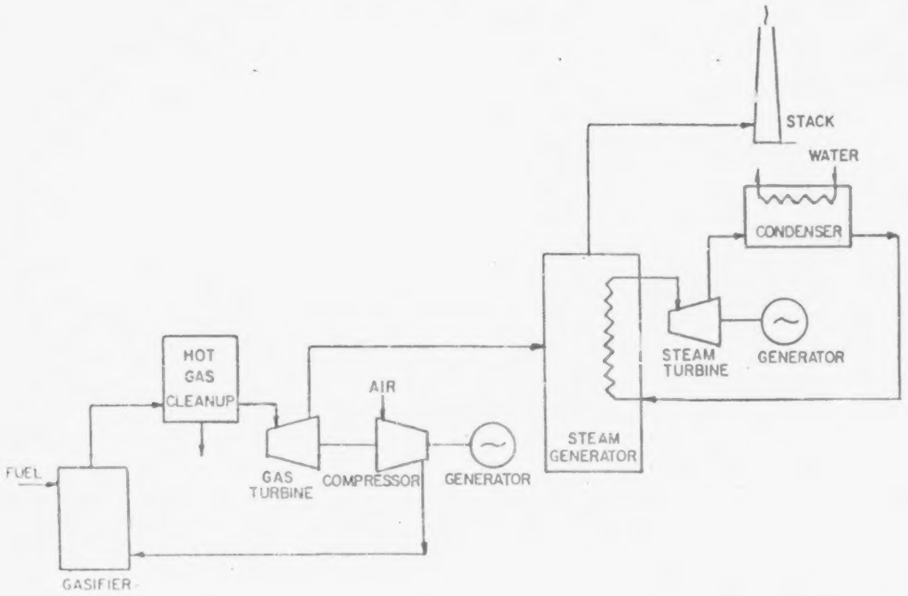
The approach here is to demonstrate that this gasifier, modified to include in-process sulfur removal, can produce fuel gas suitable for gas turbine firing. The program is designed to allow the development to proceed in steps. In each step useful energy will be supplied to the user in the form of fuel gas, steam, and electric power. Results from this demonstration would provide a modular gasifier which can be used in GCC systems generating 100 MW of electric power/module with all the benefits mentioned earlier at costs below those achievable today.

The LIMB Technology, once qualified, would offer a method to substantially reduce emissions of sulfur and nitrogen oxides from existing installations in a short time frame. Foster Wheeler's low No_x burner has been shown to have superior characteristics well suited for this technology. With the addition of emerging front end coal cleaning processes, this system would also be of value for new pulverized coal-fired installations.

Successful demonstration of this technology would provide the industry with a powerful method to reduce sulfur and nitrogen oxides quickly.



PRESSURIZED FLUIDIZED BED (PFB)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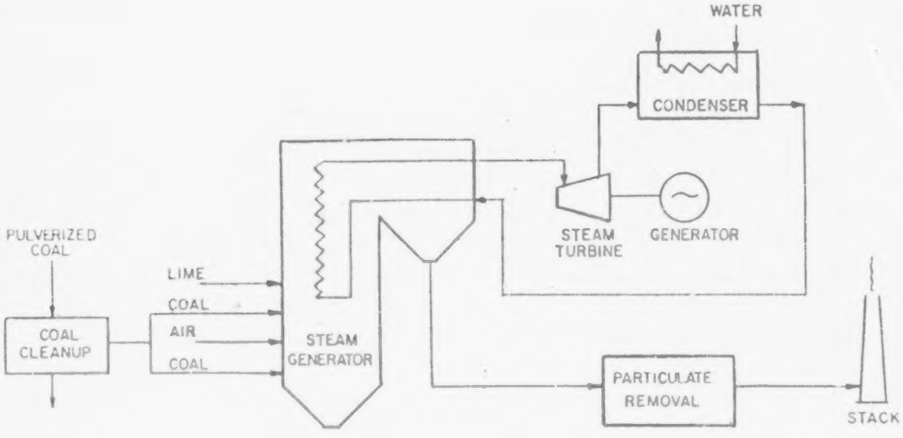
GASIFICATION COMBINED CYCLE (GCC)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STACK

DRY SORBENT INJECTION IN FURNACES

STATEMENT OF CHARLES S. McNEER, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER, WISCONSIN ELECTRIC POWER CO.

Senator JOHNSTON. Next we would like to welcome Mr. Charles McNeer of Wisconsin Electric.

Mr. McNEER. Thank you, Senator.

You have copies of my prepared statement and I will just summarize what is included.

I certain appreciate the opportunity for Wisconsin Electric Power Co., and the rest of our team to appear before you.

First of all, I would like to give you a little description of Wisconsin Electric Power Co. We are the largest utility in the State of Wisconsin serving about one-half of the people in the State basically in the popular southeastern part of the State. We are not unique in that we are basically a coal and nuclear powerplant.

Coal, in fact, is used to produce over 50 percent of the electric energy in the country and that will increase with time. The higher sulfur coal, of course, is located in the East and the Midwest with the lower sulfur in the West. And, needless to say, we are here today because of concerns for air pollution, namely, acid rain and, of course, NO_x.

Wisconsin Electric produces about 60 percent of its energy with coal and 35 percent from nuclear. We use midwestern and eastern fuel and also western fuel, and we feel it is very desirable to have a variety of sources and to be able to burn a variety of fuels for economy and also reliability of supply.

We feel the country needs and I think we can all agree a clean environment, but we also need an economic and reliable supply of electricity.

As far as acid rain is concerned, and here Wisconsin Electric may be a little unique with respect to the utilities, I feel very strongly that we need national legislation with respect to acid rain, the reason being that the States are passing legislation State by State which is uncoordinated, it is inefficient and it is not going to solve the problem to the extent that the problem is finally defined.

I am appearing here today proposing a pressurized fluidized bed combustion system. Our team is made up of Wisconsin Electric Power Co., Foster Wheeler, Brown Boveri, Gilbert/Commonwealth Associates and Research-Cottrell.

Now a little more about Wisconsin Electric to give you background as to what we have done. Our utility was the first utility in the Nation to develop the use of pulverized coal, and this is done at a powerplant in downtown Milwaukee. That powerplant was just last year given to the city to be developed since it is an historic site into a theater and a $100 million complex.

We also are the first utility to build a powerplant which uses pulverized coal. We set national and international records with respect to the efficiency of these pulverized fuel powerplants. We are also rather unique in that we have had three rate decreases in the past 15 months and we are rated triple A, and we also increased our dividends to our stockholders.

Now we would like to be able to continue this in the future, but in the future we do not know what type of powerplants we can install. Nuclear is difficult, if not impossible, in the United States for the 1990's and on into the next century. It would be difficult to decide what type of powerplant to install with respect to the coal plants, and this is why we need the new technology.

The proposal for the pressurized fluid bed combustion will remove over 90 percent of the sulfur dioxide. Our nitrous oxides will be minimal. It will be more efficient than existing plants. It certainly will have a shorter construction period, which is very important, and it will be modular, it can be fabricated in the factory and shipped to the site. Also, you would be able to burn all types of coal, eastern, midwestern, and western.

Now I think the risk is too great for one utility to take. The total cost of the project, including current investment, would be about $175 million. We are asking for about $50 million from the Federal Government, with $50 million from private sources for cash flow and we are actively seeking additional funding to reduce the burden on the Federal Government.

Another thing that I should mention is this is very definitely needed for the energy independence we have to have in the future. Otherwise, the utilities will be installing combustion turbines and burning more gas and oil.

Another item for the northern tier of States is energy from Canada. Canadian energy is based not on the cost to produce, but the cost of the utilities in the United States who burn coal. The lower we can get the cost of our coal burning plants in the United States, if we can do get Canadian energy, it will be lower costs. So everyone will benefit.

Thank you very much.

PREPARED ~~STATEMENT~~ AND ADDITIONAL COMMITTEE QUESTIONS

Senator JOHNSTON. Thank you very much, Mr. McNeer, for an excellent statement.

By the way, I have a set of written questions which I will hand out in just a moment as soon as we get them run off. We really don't have time to ask those individually and orally, and I would like that very much, but I would invite each of you to consider these generic questions. For example, what happens to the plant after the Government subsidy ends and series of questions along that line. It will help us make the case for each of these technologies.

Mr. MCNEER. And I will be very pleased to respond.

Senator JOHNSTON. Thank you.

[The information follows:]

STATEMENT OF CHARLES S. MCNEER

Chairman McClure and members of the subcommittee, I am Charles McNeer, chairman and chief executive officer of Wisconsin Electric Power Co., Wisconsin's largest electric utility. We supply energy services to more than two million people in a 12,000 square mile service territory in both Wisconsin and Upper Michigan. I welcome the opportunity to provide this testimony in support of the Clean Coal Technology program and the system known as pressurized fluidized bed combustion.

I am sure you are all keenly aware of the important role that coal plays not only in the generation of electricity in the United States, but also in the economy of various regions of our country. Let me provide some additional perspective. The electric utility industry is and will continue to be the nation's major consumer of coal. By 1995, electric utilities are expected to account for 86 percent of total U.S. coal consumption. Coal will be used to generate 55 percent of total electricity produced in this country by 1995, up from 51 percent in 1980.

Coal from the Eastern and Midwestern United States has played a major role in meeting our energy needs. But its future and the jobs that go with it are clouded by uncertainty, as proposed restrictions on sulfur dioxide emissions could make Eastern and Midwestern coal less desirable.

At Wisconsin Electric, about 60 percent of our electricity comes from coal-fired generating plants. Fifty-three percent of the coal we use comes from Kentucky and Illinois. Ten years ago, 70 percent of our coal came from Midwest suppliers.

With electricity a major factor in economic growth, it is important that the nation's No. 1 fuel -- coal -- be given high priority when we make decisions about our economic future. Western coal will continue to be a popular product because of its low-sulfur content. However, while our country's coal reserves are enough to last 300 years, the uncertainties that surround the use of higher sulfur coal have placed those reserves in doubt. They also have forced electric utilities around the country to seek more expensive alternatives. Those alternatives include the use of low-sulfur coal or the construction of power plants with expensive pollution control systems.

The uncertainties surrounding higher sulfur coals stem mainly from the public perception that acid rain is menacing our environment. The public is asking for two things -- first, a clean environment and second, adequate and economical supplies of electricity. The two concerns need not be in conflict.

Acid rain is a phenomenon that needs to be handled in a coordinated way, on a national and international basis, with the costs shared equitably. Earlier this year, I sent letters to all members of the Wisconsin congressional delegation, noting that Wisconsin Electric can and will support appropriate national legislation to address concerns about acid rain. I have attached a copy of one of those letters to my testimony here today. In it, I proposed that any national legislation be implemented in two phases. The first would set reasonable, cost-effective requirements to address emissions around the country. The second phase would take into account all of the research that is now starting to come together, along with the new clean coal technologies that are being developed.

With the expected increase in the use of coal, it is even more important that we begin today to demonstrate these technologies so that we will have options available in the 1990s. Other options, such as scrubbers or the use of low sulfur coal, are expensive, threaten the loss of thousands of jobs and represent short-sighted solutions to a long-term need.

That is why support for the Clean Coal Technology program is vital. That is why I ask your support for what I believe is the boiler of the future -- the pressurized fluidized bed combustion project that Wisconsin Electric has proposed to construct in cooperation with Foster-Wheeler Development Corp., Brown Boveri Corp., Gilbert/Commonwealth and Research-Cottrell.

Wisconsin Electric has a long and successful tradition of leadership in research and development programs for coal-fired power plants. Early in this century, we were the first utility in the world to burn pulverized coal for the generation of electricity, and we constructed the world's first plant built to burn pulverized coal exclusively. Our pioneering efforts in coal research led to world records in power plant efficiency.

We haven't ignored the customer side of our business. Wisconsin Electric has been a leader in successfully controlling increases in demand for electricity, and reducing the need for new power plants, through innovative conservation, rate and load management programs. One measure of our success was our ability to reduce rates three times in the past 15 months -- a record unmatched by any major U.S. utility.

Our latest project -- the pressurized fluidized bed combustion system -- will reduce sulfur dioxide emissions by up to 90 percent -- even while using Midwestern coal. The system readily meets new source performance standards for nitrogen oxide emissions, and it has the potential of operating as much as 15 percent more efficiently than today's conventional coal-fired power plants. This along with the potential for shorter construction times and lower construction costs could effectively reduce electric energy costs to our customers. This revolutionary system can mean a strong future for coal mined east of the Mississippi River. It can mean economical electricity production. And it can mean a cleaner environment.

Not only is our country involved in an acid rain debate that could limit our use of coal, we also find ourselves in an era when adding new nuclear power plants is not a practical option. Because of cost and regulatory uncertainty, the electric utility industry simply cannot plan today for additional nuclear plants. That establishes a persuasive case for the need to demonstrate practical Clean Coal Technologies.

Wisconsin Electric cannot ask its customers and stockholders to take on the sole responsibility for demonstrating the PFBC. We believe it is a project that could benefit the entire nation and as such should appropriately receive national support. Neither can we ask the federal government for total financial support. That is why Wisconsin Electric has started an ambitious national campaign to seek additional funds for this project from the coal and utility industry and others that would benefit from a demonstration of the commercial viability of the PFBC technology.

Our PFBC project is vital to the economic future of our country, and can help us maintain our energy independence. I urge your support for the Clean Coal Technology program and for the Wisconsin Electric PFBC demonstration project I have described.

Thank you for the opportunity to appear today.

LETTER FROM THE WISCONSIN ELECTRIC POWER CO

February 19, 1985

Senator Robert W. Kasten, Jr.
110 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Kasten:

The legislation proposed by the National Governor's Association offers the framework for a reasonable approach to the concerns about acid rain, but also contains provisions that would significantly increase the price of electricity in Wisconsin.

While I cannot support the NGA proposal as written, it does address some important elements that should be included in any national approach to this issue. Those elements are:

--a two-phase sulfur dioxide emissions reduction program;

--a first phase requiring reasonable reductions in sulfur dioxide emissions that can be obtained in a cost-effective manner;

--an expanded and accelerated research program;

--a second phase that would be implemented only if the research and an assessment of the first phase results demonstrate the need for more controls; and

--an implementation schedule for phase two that will allow for cost-effective advanced technologies for sulfur dioxide emissions reductions to become commercially available.

I should point out that the NGA bill is by no means the moderate bill some have suggested it is. In fact, it goes far beyond the issue of acid rain. It virtually requires a minimum 10-million-ton sulfur dioxide emissions reduction and it gives unprecedented decision-making power to the EPA administrator. These provisions make the bill unacceptable as a whole. Let me explain further.

As written, the NGA bill would likely force Wisconsin Electric to install scrubbers on one or more of our power plants in phase one. Rate increases of at least 10 percent would be necessary if these scrubbers are required.

An alternative that we favor would be first phase reductions on the order of three million tons of sulfur dioxide a year from 1980 levels, and flexibility for utilities in how they meet such reductions. This would allow us to avoid making huge financial commitments to retrofit older units with extremely expensive scrubbing equipment that may later prove unnecessary.

During phase one, we should proceed with an expanded research program that would be used along with the results on the phase one reduction program to determine whether it is necessary to proceed with additional controls. Reductions in the second phase should be tied to the demonstrated need for more controls and to the availability of cost-effective emissions reduction technologies.

The NGA bill takes the opposite approach. It says the second phase could be reduced or eliminated only if the EPA administrator convinces Congress that such a change will increase protection of resources. This is an impossible test. If the Congress is unconvinced, or if one tree or lake could be said to be potentially susceptible to damage, the additional phase two reductions must take place.

In addition, the bill authorizes the EPA administrator to further increase sulfur dioxide reductions and require nitrogen oxide emissions reductions in the second phase. He would have to explain to Congress only if he chose not to require nitrogen oxide reductions.

We believe decisions about implementation of the second phase, or about even more stringent emissions reductions, should be made by Congress, not the EPA administrator. These decisions should be based on technical, economic and public policy information. To leave such decisions in the hands of the EPA administrator, as the NGA proposes, authorizes an inappropriate exercise of the administrator's judgment and authority.

Equally troublesome is the fact that the NGA bill undermines the powers of the existing Clean Air Act, which is the vehicle already established by Congress for dealing with such issues as ambient air quality, health effects and visibility. The NGA bill's broad statement of purpose seems to empower the administrator to circumvent this vehicle and its well-established health and welfare standards.

Acid rain is a national issue, and as such should be dealt with on a national level. This bill, however, does so in an unacceptable manner. I urge you not to join as a co-sponsor of this bill until modifications are made.

Despite the national nature of the acid rain issue, Wisconsin has taken steps to reduce sulfur dioxide emissions. These actions include:
--state legislation placing a cap on utility sulfur dioxide emissions;
--new state Department of Natural Resources rules requiring further sulfur dioxide emissions reductions;
--a $1.7 million research project into the causes and effects of acid rain, conducted jointly by state agencies and utilities, with the utilities providing $1 million. This research so far shows no evidence of acid rain damage to lakes or forests in Wisconsin.

On its own, Wisconsin Electric recently has embarked on a revolutionary new sulfur dioxide emissions control project. We have indicated our desire to be the host site for a pressurized fluidized bed combustion (PFBC) demonstration unit at our Port Washington Power Plant. This unit could remove some 90 percent of the sulfur from the coal as it is burned, and could yield important data that would help bring such PFBC units to commerical availability.

I am concerned that in the absence of preemptive federal action, Wisconsin and other states will take further uncoordinated steps to independently reduce sulfur dioxide emissions. This would be counterproductive on two fronts. If Wisconsin acts alone in reducing sulfur dioxide emissions, those reductions would be so insignificant on a national basis that they would have no measurable effect, positive or negative, on the environment. And, by standing alone to require emissions reductions, Wisconsin would put its businesses and its citizens at an economic disadvantage. Acid rain is a phenomenon that needs to be handled in a coordinated way, on a national basis and with the costs shared evenly.

Finally, while I don't mean to suggest that acid rain will just go away, there are several developments on the horizon that will help mitigate its effects. For instance, as older plants are retired, newer plants burning lower-sulfur coal will come on line. New sulfur and nitrogen oxide emission reduction technologies that can be retrofitted onto older units may soon become commercially viable. Given time, these two factors alone could make a big difference in the scope of the problem. This, combined with the expanded research program proposed by the NGA should make it easier for us to determine whether additional control measures are necessary.

This NGA bill also contains numerous other provisions that are objectionable and that I would be pleased to discuss with you in more detail. Do not hesitate to call.

Sincerely,

Charles McNeer

Charles S. McNeer
Chairman of the Board and
Chief Executive Officer

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

Question. What do you believe would be the appropriate levels of cost sharing by the Federal Government in each of these technologies?

Question. In your view, will the private sector commercialize these clean coal technologies on its own in time to meet the new electric generation capacity requirements in the early 1990's?

Question. If this congressionally initiated clean coal technology program is to move forward, what schedule must it follow in order to demonstrate these technologies in time to deploy them by the early 1990's?

Question. In order for any clean coal technology projects to be selected, it will be necessary to develop a set of criteria by which the projects can be evaluated and ranked. The obvious criteria which come to mind immediately are: the extent of private sector cost sharing, technical and environmental performance of the project, and potential for widespread use of the technology. Are there any additional criteria that you could suggest now for the committee's consideration or which you will be willing to provide it at a later date?

STATEMENT OF ROBERT E. UHRIG, VICE PRESIDENT, FLORIDA POWER & LIGHT

ACCOMPANIED BY KENNETH OLAND, RESEARCH AND DEVELOPMENT DEPARTMENT, FLORIDA POWER & LIGHT

Senator JOHNSTON. Next we have Mr. Robert Uhrig with Florida Power & Light.

Didn't you help build the nuclear plant?

Mr. UHRIG. Yes, sir.

Senator JOHNSTON. We were talking about you this morning as a matter of fact, in a complimentary way, Dr. Uhrig. [Laughter.]

Mr. UHRIG. Thank you.

Mr. UHRIG. Senator Johnston, ladies and gentlemen, I am Robert E. Uhrig, vice president of Florida Power & Light, and my colleague is Dr. Kenneth Oland of our research and development department, and I will briefly summarize our prepared testimony.

This morning Dr. Balzhiser described two new state-of-the-art alternatives to pulverized coal with flue gas desulfurization.

I would like to add a third alternative this afternoon, the turbocharged boiler. Now I know that sounds like a drag racer, but it is, in fact, a simple cycle version of the pressurized fluidized bed combustion system.

Now Florida Power & Light historically has been an oil burning utility. We burn no coal at all at the present time, although we are buying some 2,000 megawatts of coal-based power from the Southern Co., through 1995. We will need additional capacity in the mid to late 1990's and it is inevitably going to be coal-based capacity.

We don't have an acid rain problem in southern Florida and we don't want one. We are committed to burning coal in an environmentally acceptable manner. We believe that the turbocharged boiler meets our environmental needs and will meet the needs of other utilities and industrial organizations.

Now in the turbocharged boiler coal is burned in a fluidized bed of calcium based rock that reacts with the sulfur producing calcium sulfate, a solid that is removed with the ash, and the emissions of SO_2 is controlled to the desired level by varying the calcium to sulfur ratio.

The high pressure and low temperature drastically inhibit the formation of nitrous oxide, or NO_x, the other acid rain precursor to about one-sixteenth of new source performance standards for new coal plants. And the moderate temperature gas cleanup system virtually eliminates particulate emissions. We have designed to one-half of new source performance standards, but we have achieved one-tenth of these standards in tests carried out at General Electric's Mulda facility in New York.

The turbocharged boiler is a modular system. We believe that a 100-megawatt modular represents a practical utility sized unit, although it can be built in smaller sizes for other applications. The component of a turbocharged boiler can be built in a factory. The main component is the pressure vessel. It is 30 feet in diameter and 90 feet high, which is about the same size as the first stage of a Saturn rocket.

These components can be barged to site and erected in prepared foundation. The turbocharged boiler can be rapidly constructed, and some of our studies indicate something like 22 percent faster than a pulverized coal plant.

It offers potential lower costs. Again, our preliminary results are something like 11 percent lower overnight construction costs and further reductions associated with the reductions in financing costs or allowance for funds used during construction.

It offers potential lower fuel costs compared to oil and gas and it will be able to burn a variety of eastern and midwestern coals.

Now Florida Power & Light with General Electric, Babcock & Wilcox, and with the assistance of Sargent & Lundy and the Electric Power Research Institute we propose to repower our retired 80 megawatt oil-fired Polatka unit No. 2. We propose to do this, not because we need the power, but rather to demonstrate the turbocharged boiler so that it will be commercially available in 1990 because we believe it can be the preferred coal-based power option. All the components are state-of-the-art equipment with minor modifications. We need to put the components together and make the system work.

We propose a 5-year test program jointly carried out with the Electric Power Research Institute, and that will be followed by a 10-year period of commercial operation if it proves to be technically sound and economical.

Thank you.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Dr. Uhrig. We will place your entire statement in the record.

[The statement follows:]

STATEMENT OF ROBERT E. UHRIG

Mr. Chairman, Members of the Subcommittee, my name is Robert E. Uhrig, Vice President of Florida Power & Light Company (FPL). I am here to present for the record the Company's position regarding the need for funding from the Clean Coal Technology Reserve to support a proposed project to demonstrate the commercial feasibility of a pressurized fluidized bed combustion (PFBC) unit, as a new, efficient, and environmentally attractive means of using a variety of coals directly. The proposed demonstration is to repower FPL's oil-fired 80 megawatt Palatka Unit No. 2 steam turbine generator with a single coal-fired PFBC turbocharged boiler.

FPL has historically been an oil-based utility. Although FPL does not at present utilize coal at any of its power stations, 2000 megawatts of coal-based power are being purchased under contract with the Southern Company, and FPL and Jacksonville Electric Authority are jointly building 1200 megawatts of coal-fired capacity. With possible limits on future purchased power and an expected 2-1/2 percent net growth rate, additional installed capacity may be required in the mid- to late-1990's. Because new plants will undoubtedly be coal-fired, there is considerable concern regarding the impact of available coal-based options on the environment, the financial strength of the Company, and the cost of electricity. While there are at present no acid rain related problems in south Florida, the Company is committed to avoiding the creation of any future environmental problems, and has thus remained cognizant of and actively supportive of emerging coal-based power generation options.

Given that it may take 7 to 10 years to license, permit and build a new coal-fired power plant, there exists a 5 to 8 year window at FPL in which to demonstrate options to replace the only existing commercial technology: that of pulverized-coal with add-on flue gas desulphurization systems (PC/FGD). Of the emerging technologies --Integrated coal gasification combined cycle (IGCC), atmospheric fluidized bed combustion (AFBC) and PFBC -- only the latter option appears to be able to alleviate all of FPL's concerns.

The PFBC turbocharged boiler is simply a fluidized bed steam generator that is operated under pressure. Air compressed to 10 atmospheres fluidizes a bed of crushed limestone-based sorbent mineral. Coal injected into the bed is burned in the presence of the sorbent at a relatively low temperature. The calcium-based sorbent reacts with the sulphur released during combustion and forms a sulphate, which is discharged from the boiler as a dry solid waste along with the coal ash. The low combustion temperature and the high operating pressure severely limit NO_x formation. Convective heat exchangers located above the bed cool the combustion gases, such that near state-of-the-art technology can be used to remove particulates. The cleaned gas is expanded in a gas turbine that powers an axial air compressor, which, in turn pressurizes the boiler; hence the term "turbocharged boiler." All electric power is produced using conventional steam driven turbine/generator technology.

The PFBC turbocharged boiler offers many advantages over conventional and emerging coal combustion processes. These advantages include simple and effective control of acid rain precursors, i.e., SO_x and NO_x, and particulates. PFBC turbocharged boilers have the fuel flexibility of AFBC's with improved efficiences and lower capital cost. System components are physically much smaller due to the increase in combustion intensity which results from operating at higher pressures. Shop fabricated transportable components including the boiler can be assembled at the plant construction site. The result is lower capital costs and shorter construction times with associated reductions in the Allowance for Funds Used During Construction (AFUDC). Commercial plants may be designed with multiple modules ranging from 10 to over 100 megawatts to power a single steam turbine. The design flexibility afforded by the PFBC turbocharged boiler concept greatly increases the range for potential application of the technology in both the industrial and utility markets.

FPL and its partners in the proposed repowering demonstration project, Babcock & Wilcox, General Electric, EPRI and Sargent & Lundy, conducted a cost study in which the capital and operating costs for multimodule PFBC turbocharged boiler plants were compared to those for equivalent PC/FGD plants. It was determined that the capital costs for a multimodule PFBC turbocharged boiler plant having four 100-megawatt modules and a single steam turbine generator, were about 11% less than those for a 400-megawatt PC/FGD plant. In addition to better overall plant efficiency, it was estimated that two of the four PFBC modules could be put into service 13 months or 22% earlier than a 400 megawatt PC/FGD plant. To install the second two modules to fully power the steam turbine would only require a short three-month outage. The modular approach clearly provides increased flexibility in the planning process, wherein installed capacity can be increased in smaller increments. This feature of PFBC turbocharged boiler technology has decided advantages to both the ratepayer and investor, as was recently reported by the Electric Power Research Institute.* The modular approach using shop fabricated transportable components sets the PFBC turbocharged boiler approach apart from the large field fabricated PC/FGD and AFBC plants. It also sets the turbocharged PFBC apart from PFBC combine cycle design, which requires site erected economizers and baghouses to increase efficiency and meet New Service Performance Standards (NSPS), respectively.

The Palatka repowering demonstration will involve replacing the existing oil-fired boiler with a single PFBC turbocharged module. Steam generated in the PFBC turbocharged boiler will be provided to the existing turbine at the same conditions and flow rates as the original boiler. The unit will be fired with a 73% coarse coal slurry, which will be prepared on site and stored in a converted oil storage tank. Using a coal slurry has a small negative impact on plant efficiency, while reducing both capital and operating cost as pumping slurry across the pressure barrier directly into the fluidized bed greatly simplifies coal feeding problems. In addition, the operation of the PFBC will not be close-coupled and dependent on a coal preparation system. During a planned five-year demonstration, performance and operating costs will be evaluated while burning a variety of bituminous coals from Appalachian and Midwest mines. The demonstration plant will operate with a high capacity factor as the fuel costs, including slurry preparation, are expected to be about $2.40/10^6Btu. In comparison, the present costs for natural gas and heavy oil are $3.50/10^6Btu and $3.90/10^6Btu, respectively. When operated as a production plant, the Palatka PFBC turbocharged boiler will be dispatched directly after purchased power.

Particulate control in the proposed repowering demonstration will be achieved using a single-stage cyclone and an electrostatic granular bed filter. Although design specifications suggest that particulate emission will be about one-half of present allowable NSPS, recent test results suggest that lower levels are achievable. Based on the results of FPL and U.S.-DOE jointly sponsored performance tests, an oolitic limestone native to south Florida is the preferred sorbent to be used at Palatka for sulphur capture. The PFBC turbocharged boiler is expected to produce only one-sixth of the present NSPS permitted level for NO_x emission for new coal-fired plants.

The PFBC turbocharged boiler option has been advocated by EPRI for several years, and endorsed by the U.S.-DOE, as a lower risk approach to commercializing PFBC technology. The turbocharged boiler offers the potential for a low cost and efficient method for burning a variety of coals cleanly in a simple direct manner that is suitable for the power industry. There is no need for a complicated chemical process plant to control sulphur emission as is the case in IGCC and PC/FGD systems.

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*Fancher, R. B., "The Impact of Modularity Benefits on Utility Investment Decisions," EPRI Utility Conference on Pressurized Fluidized-Bed Combustion Power Plants, Williamsburg, VA, June 20-22, 1984.

What remains is to demonstrate the commercial feasibility of the PFBC turbocharged boiler on a sufficiently large scale such that systems can be offered with normal guarantees in the mid- to late-1990's. To meet future environmental and cost challenges associated with coal-based power generation, new technologies must be developed now. Florida Power & Light Company and its partners believe that a 50 percent Federal Government share of the total project cost of approximately $123 million for the proposed Palatka demonstration is a reasonable financial objective. At present, it is doubtful whether satisfactory funding could be secured for the proposed Palatka demonstration without Federal assistance.

Senator JOHNSTON. Was it the St. Lucie plant you built?

Mr. UHRIG. The nuclear plant is St. Lucie unit 2.

Senator JOHNSTON. For the information of the audience, that was the only plant, I think, that has been brought in on time and under budget in the history of nuclear power, at least in the recent history of nuclear power. If somebody else did one, good.

FROM THE FLOOR. I was going to say we did it, too. [Laughter.]

Senator JOHNSTON. So Dr. Uhrig comes here with very high credibility.

Second, I would like to say that when you say these can be built in a factory, there is a very strong case that can be made that we need to build as many in a factory as we can because our experience in this country in recent years of building things out on the site is not very good, and the more we can do in a factory, the better off we are.

I think what we are seeing here today, and I guess we saw the same thing this morning, is this proliferation of different technologies, each one a little different. This shows the genius of going forward with this very small $750 million program. We are getting a lot of bang for the buck with a small amount of money, with Federal seed money.

I have no doubt that we are going to find from the expenditure of this money some really excellent technologies that are going to teach us how to burn coal much cheaper. I think this is where the great new field in energy is—in the clean burning of coal.

So thank you very much, Dr. Uhrig, and we will have these written questions for all of you soon.

STATEMENT OF JAMES J. MARKOWSKY, ASSISTANT VICE PRESIDENT—MECHANICAL ENGINEERING, AMERICAN ELECTRIC POWER SERVICE CORP.

Senator JOHNSTON. Our next witness will be Dr. James Markowsky with the American Electric Power.

Mr. MARKOWSKY. Senator, my name is James J. Markowsky, and I am the assistant vice president, mechanical engineering for the American Electric Power Service Corp., of Columbus, OH.

In the interests of time I am going to summarize the highlights of my testimony and wish to have it introduced in the record.

The American Electric Power System is located in the heart of American's high sulfur coal reserves. It is the Nation's largest consumer of coal. Last year we burned 38 million tons of coal. We are also one of the Nation's largest investor owned utilities.

In 1984 AEP generated 108 billion kilowatt hours of electricity, almost 90 percent of which was generated from our 20 coal-fired powerplants.

The object of my testimony this afternoon is to outline AEP's pressurized fluidized bed development program. This is a privately funded development program that has been carried out in conjunction with ASEA PFBC, a subsidiary of the Swedish manufacturer, ASEA, and Babcock & Wilcox Co., one of the largest American boiler manufacturers.

The process is a relatively new technology which AEP has considered potentially to be one of the most economic and environmentally attractive methods for future generation electric power with high sulfur coal.

In PFBC, somewhat different than the turbocharged cycle that you have heard earlier, Senator, we are merging a gas turbine that generates electricity with a steam turbine in a combined cycle arrangement to generate electric power more efficiently.

The advantages of PFBC, which you have heard, fall into three major categories, generating efficiency, environmental, and economic, and I would just briefly like to go over them.

The efficiency advantage in ours is due principally to the combined cycle aspect of this process. PFBC is anticipated to result in an overall increase in thermal efficiency of at least 8 percent when compared to a conventional coal-fired plant that utilizes a flue gas desulfurization system.

The environmental advantages of PFBC include 8 percent lower sulfur dioxide emissions due to the higher thermal efficiency. This equates to a 25,000-ton reduction in SO_2 emissions over a 30-year plant life for a 640 megawatt plant; 54 percent lower nitrogen oxide emissions, a 30-year reduction of 164,000 tons, and this is due to the low temperature of the process; 13 percent less waste products. This reduction results in excess of a 3 million ton reduction over a 30-year plant life.

You have heard about the economic advantages. They basically in summary are about a 10-percent cost savings on the capital and also about a 10-percent cost savings on the cost of electricity.

This results in the capital portion of about $112 million in present day dollars for a 640 megawatt plant. This is the savings we are going after.

The modularity feature also permits incremental capacity additions with a minimal capital cost penalty due to diseconomies of scale.

These are the motivating reasons behind AEP's pursuit of this program.

AEP has been actively involved in this privately funded program since 1976. Throughout these 8 years AEP and our partners have expended almost $32 million. The development program has been performed in a phased approach beginning with feasibility studies, conceptual designs, extensive modeling, and early pilot plant testing.

A significant element of our development program is a 15 megawatt component test facility which is being erected in Malmo, Sweden. The component test facility was built to test the integrated operation and endurance of systems required to apply PFBC technology to electric power generation.

Since its startup in 1982 it has logged over 2,500 hours of test operation providing us with more confidence in this technology. The next step to bring PFBC combined cycle to a commercial reality is a utility scale demonstration plant.

AEP plans to retrofit the Tidd plant, a 1940's vintage coal-fired plant in Brilliant, OH, to a 70 megawatt PFBC commercial demonstration plant. The cost for the demonstration plant and a 5-year test program is projected to be $194 million as spent dollars. The total cost for our proposed commercialization program is projected to be $226 million as spent dollars. Of this AEP is requesting $77 million as spent dollars from the Federal Government or 34 percent of the total development program cost.

AEP further proposes to cap the Federal cost share with AEP being responsible for all cost overruns.

Senator JOHNSTON. Now I am reading here that the total estimated cost of PFBC technology is $169.6 million.

Mr. MARKOWSKY. That is right, Senator. That is in December 1983 dollars. When as say as spent, those are actual dollars that you will accumulate with interest and escalation.

Senator JOHNSTON. I see. Well, for the benefit of everyone in the audience, this seems to be an excellent plan here where you have $169.6 million of which you are requesting only $56.6 from the Government. So that you are about—what percentage was that?

Mr. MARKOWSKY. We are basically requesting 34 percent from the Government.

Senator JOHNSTON. Thirty-four percent from the Government and they are going to cap the Government cost by absorbing any cost overrun. This is really an excellent proposal.

If you can wind it up because we are getting close on our time.

Basically that summarizes it. Our program right now, if we can receive the necessary approvals and funding requirements this year, we can begin construction in 1987 with operation in 1989.

I want to thank you very much for the opportunity to present the testimony.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Dr. Markowsky. We will place your entire statement in the record at this point.

[The statement follows:]

STATEMENT OF JAMES J. MARKOWSKY

Mr. Chairman, Members of the Subcommittee, my name is James J. Markowsky. I am Assistant Vice President - Mechanical Engineering, for American Electric Power Service Corporation of Columbus, Ohio.

The American Electric Power (AEP) System, located in the heart of America's high sulfur coal reserves, is the nation's largest consumer of coal. Last year AEP burned over 38 million tons of coal. We are also one of the nation's largest investor owned utilities; in 1984 AEP generated 108 billion kilowatt hours of electricity, almost 90% of which was generated from our 20 coal-fired power plants.

AEP expects to continue its 79 year tradition of relying on coal as its primary fuel source, and hence, AEP is committed to developing technologies to utilize coal for electric power generation in an economical and environmentally compatible manner.

The object of my testimony today is to outline AEP's Pressurized Fluidized Bed Combustion (PFBC) Development program. This is a privately funded development program and is being carried out in conjunction with ASEA PFBC, a subsidiary of the Swedish Manufacturer, ASEA, and Babcock and Wilcox Co. (B&W), one of the largest American boiler manufacturers.

The PFBC process is a relatively new technology, which AEP considers to be potentially one of the most economic and environmentally attractive methods for future generation of electric power with high sulfur coal.

In fluidized bed combustion (FBC), the sulfur in the coal is removed during the combustion process. Crushed coal and a sulfur sorbent (dolomite, a limestone type material) are continuously injected into a vessel, where the coal is burned at a relatively low temperature while in contact with the sulfur sorbent. Air is fed in from the bottom of the bed giving rise to turbulent coal and sorbent particle motion, which resembles a boiling-fluid like appearance.

In PFBC, the fluidized bed merges a gas turbine with a steam turbine in a combined cycle arrangement to generate electric power (See Figure 1).

The ultimate goal of the AEP development program is the commercialization of PFBC combined cycle technology as a viable alternative for generating electricity using coal. The modularity of design, which incorporates a number of combustor/gas turbine modules into one or more steam cycles is an attractive feature of PFBC. For example, a supercritical 640-MW (net) commercial cycle (see Figure 2) would comprise a single reheat steam cycle coupled to two combustor/gas turbine modules. Each gas turbine produces 75-MW for a total of 150-MW of gas turbine power. The balance (490-MW) is produced by one steam turbine. The net efficiency of the first generation plant is about 39.4%; however, this technology offers the potential for further gains in efficiency.

The advantages of PFBC fall into three major categories: generating efficiency, environmental, and economic.

The efficiency advantage is due to the combined cycle design of the PFBC process. PFBC is anticipated to result in a overall increase in thermal efficiency of at least 8% when compared to a conventional pulverized coal fired (PCF) power plant that utilizes a flue gas desulfurization (FGD) system. This efficiency advantage translates to a savings of approximately 114,000 tons of coal per year for a 640-MW commercial plant.

In addition, PFBC offers the realistic potential of further improvements in efficiency as technologies evolve which will permit higher gas turbine inlet temperatures, higher pressure ratios, ash heat recovery, etc.

The environmental advantages of PFBC combined cycle include:

- 8% lower sulfur dioxide emissions due to the higher thermal efficiency. This equates to a 25,000 ton emission reduction in SO_2 over a 30 year plant life.
- 54% lower nitrogen oxide emissions, a 30 year reduction of 164,000 tons, due to the low combustion temperature.
- 13% less solid waste products. This reduction of waste products is in excess of 3 million tons over a 30 year plant life. In addition, the waste products of PFBC are dry as opposed to the sludge produced by FGD Systems.

The economic advantage of PFBC is a third driving force behind AEP's development program. A commercial PFBC plant is projected to cost approximately 10% less than a similar sized conventional plant in both capital cost and cost of electricity (See Figure 3). The 10% savings in capital cost represents $112 million in present day dollars for a 640-MW plant. Furthermore, the compactness and modularity of PFBC result in a 25% reduction in construction time. PFBC modularity also permits incremental capacity additions with minimum capital cost penalty due to diseconomy of scale.

These advantages are the motivation for AEP's PFBC development program.

AEP has been actively involved with the privately funded PFBC development since 1976. Throughout these eight years AEP and our partners, have expended almost $32 million. The development program has been performed in a phased approach - beginning with feasibility studies, conceptual designs, extensive modelling and early pilot plant testing.

A significant element of the development program is the 15MW Component Test Facility (CTF) which was erected in Malmo, Sweden (See Figure 4). The CTF was built to test the integrated operation and endurance of the systems required to apply PFBC technology to electric power generation. Since its start-up in 1982, it has logged over 2500 hours of operation, providing us with more confidence in this technology.

The next necessary step to bring PFBC combined cycle to commercial reality is a utility scale demonstration facility.

AEP plans to repower the Tidd Plant, a 1940's vintage coal fired plant in Brilliant, Ohio, to a 70-MW PFBC Commercial Demonstration Plant (See Figure 5).

AEP and its partners have expended $32 million in private expenditure to advance the PFBC combined cycle to its present state. The cost for the demonstration plant and a five-year test program is projected to be $194 million (as-spent). The total cost of our proposed commercialization program is projected to be $226 million. Of this, AEP is requesting $77 million (as-spent) from the Federal Government, or 34% of the total program cost. Furthermore, AEP proposes to "cap" this Federal cost share with AEP responsible for any cost overruns.

AEP has proposed this "cap" because we recognize the determination of the Federal Government to exercise budget constraints in the development of new technologies. We appreciate the importance of private sector commitment, both in equity participation and in accepting the bulk of the risk. However, a reasonable degree of Federal cost-sharing is appropriate to accelerate the development of emerging clean coal technologies such as PFBC which has the potential to benefit not only our customers, but other utility customers and industries in the United States.

If the necessary approvals and funding requirements are achieved this year, construction of the 70MW PFBC Commercial Demonstration Plant could commence in 1987 with operation in 1989. If this schedule can be met, the first commercial size PFBC facility could be operational in the mid-1990's.

It is apparent that the commercialization process for new technologies such as PFBC is both long and costly. Such costs may be beyond the financial means of the private sector, especially a regulated utility. However, with the financial assistance of the Federal Government, PFBC can become a viable option for the economic use of coal for electric power generation.

I appreciate this opportunity to present our program and views and wholeheartedly endorse actions by Congress in supporting the timely development of new clean coal technologies.

Figure 1

PFBC COMBINED CYCLE

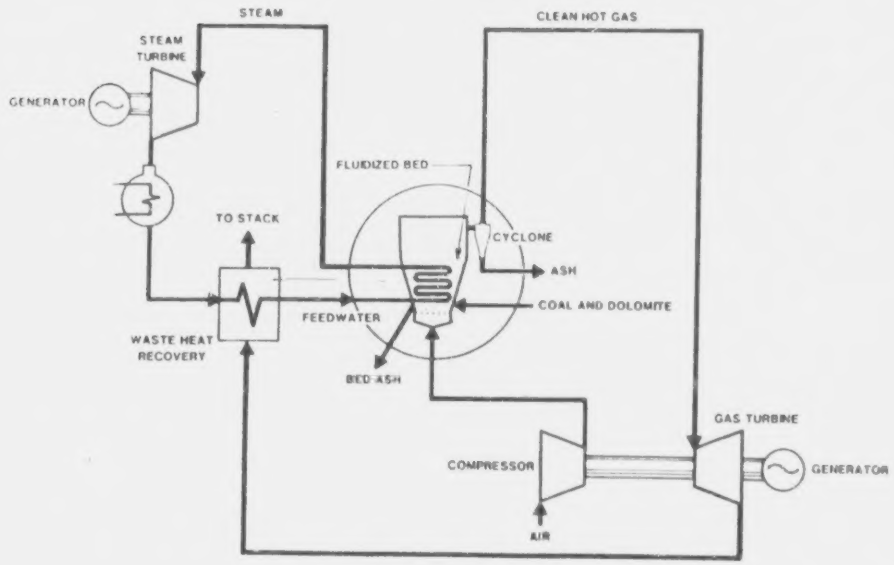


Figure 2

COMMERCIAL PFBC PLANT (TWO MODULE)

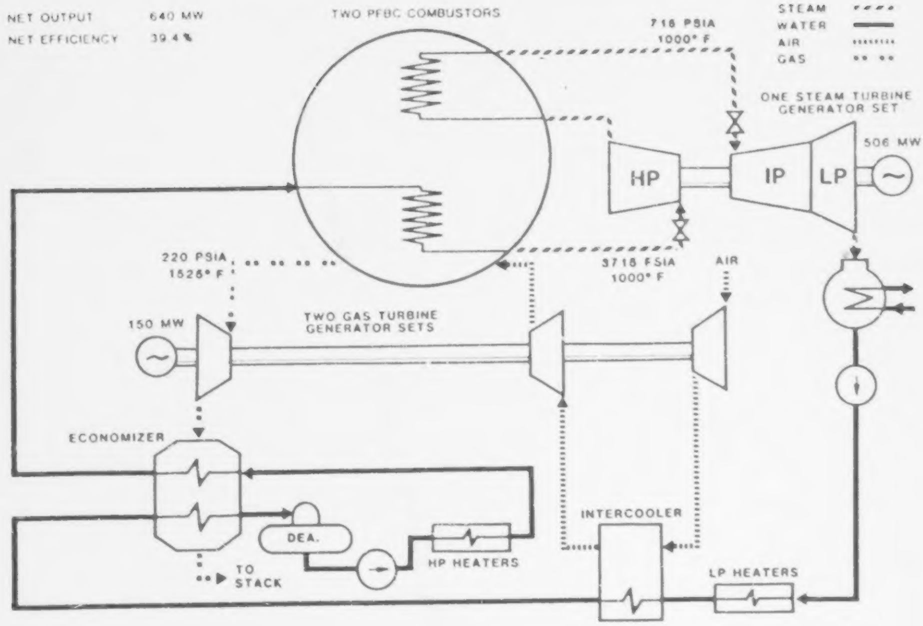

NET OUTPUT 640 MW
NET EFFICIENCY 39.4 %
TWO PFBC COMBUSTORS
718 PSIA
1000° F
STEAM
WATER
AIR
GAS
ONE STEAM TURBINE GENERATOR SET
506 MW
HP
IP
LP
220 PSIA
1526° F
3718 PSIA
1000° F
AIR
150 MW
TWO GAS TURBINE GENERATOR SETS
ECONOMIZER
INTERCOOLER
DEA.
HP HEATERS
TO STACK
LP HEATERS

Figure 3

COST COMPARISON

CONVENTIONAL PLANT VS. PFBC PLANT

Design Conditions	Conventional Plant	PFBC Plant
Net Capacity (MW)	640	640
Net Heat Rate (BTU/Kwh)	9320	8660
Cost Summary (12/84 Dollars)		
Capital Costs, $/Kw	1645	1470
Cost of Electricity,* Mills/Kwh	116	105

*Levelized

Figure 4

COMPONENT TEST FACILITY

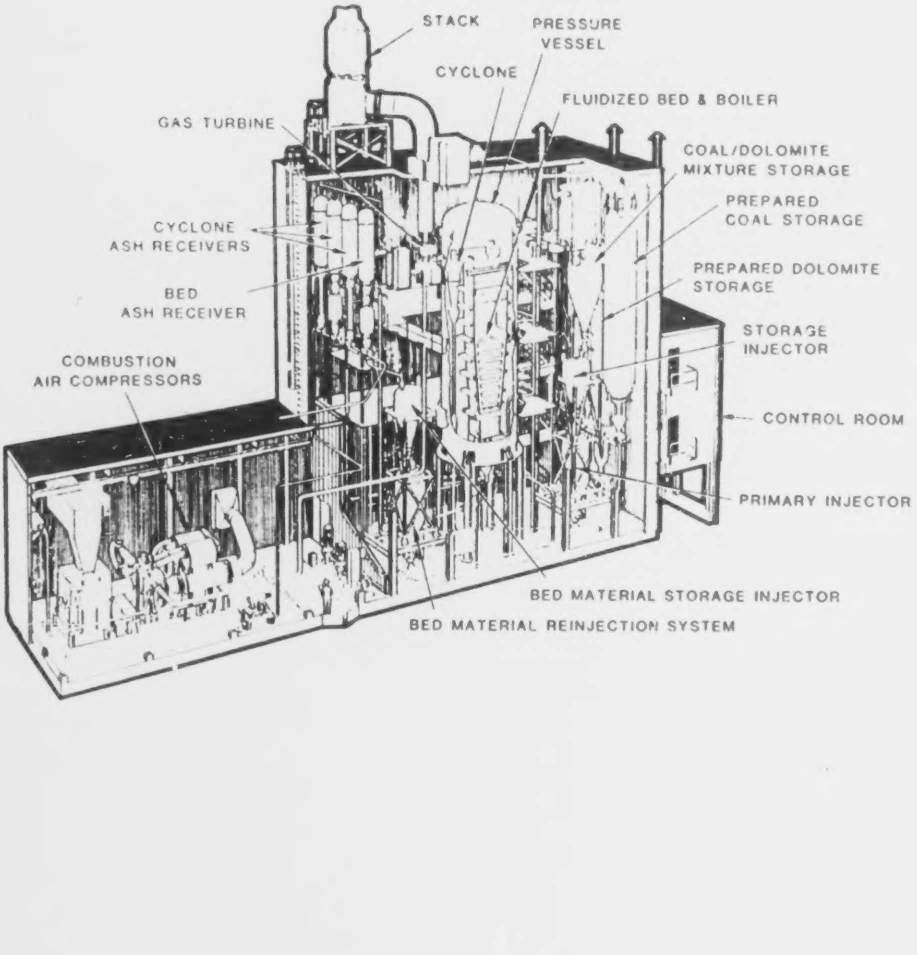
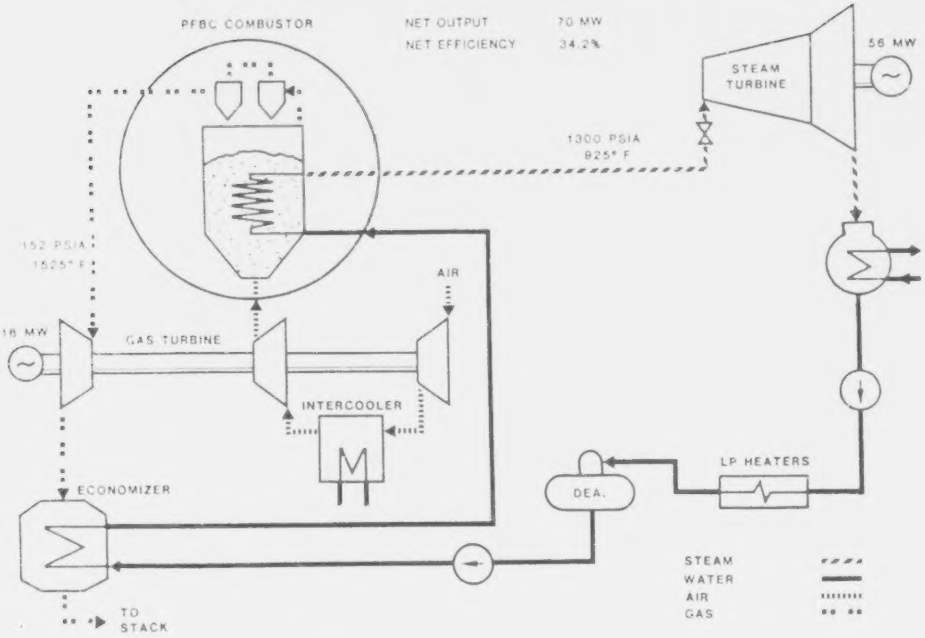

STACK
PRESSURE VESSEL
CYCLONE
FLUIDIZED BED & BOILER
GAS TURBINE
COAL/DOLOMITE MIXTURE STORAGE
PREPARED COAL STORAGE
CYCLONE ASH RECEIVERS
PREPARED DOLOMITE STORAGE
BED ASH RECEIVER
STORAGE INJECTOR
COMBUSTION AIR COMPRESSORS
CONTROL ROOM
PRIMARY INJECTOR
BED MATERIAL STORAGE INJECTOR
BED MATERIAL REINJECTION SYSTEM

Figure 5

TIDD PFBC DEMONSTRATION PLANT CYCLE


PFBC COMBUSTOR
NET OUTPUT 70 MW
NET EFFICIENCY 34.2%
STEAM TURBINE
56 MW
1300 PSIA
825° F
152 PSIA
1525° F
AIR
16 MW
GAS TURBINE
INTERCOOLER
ECONOMIZER
LP HEATERS
DEA.
TO STACK
STEAM
WATER
AIR
GAS

STATEMENTS OF:

WILLIAM M. MENGER, CHIEF CONSULTING ENGINEER FOR HOUSTON LIGHTING & POWER CO.

JIMMIE R. BOWDEN, BECHTEL POWER CORP.

Senator JOHNSTON. Next we have Dr. William M. Menger and Mr. Jimmy R. Bowden from Houston Lighting & Power.

Mr. MENGER. Thank you, Mr. Chairman. I am not Dr. Menger, but thank you.

Thank you, Mr. Chairman, for the opportunity to appear today before this hearing. I am William Menger, chief consulting engineer of Houston Lighting & Power Co.

At this time it is requested that I be allowed to submit the complete testimony for the record while abbreviating this presentation.

Senator JOHNSTON. Yes, of course.

Mr. MENGER. Thank you. We appreciate the attention given to clean coal technologies. We see two purposes being served, finding ways to burn coal cleanly and boilers designed to burn coal, and finding ways to reduce the Nation's dependence on gas and oil by demonstrating ways to burn coal cleanly in boilers initially designed to burn gas and oil.

We believe that energy independence can be brought closer for the United States through increased dependence on domestic coal as a substitute for oil as a fuel with simultaneous reduction in our Nation's balance of payments deficit.

HL&P has investigated various proposed ways to burn coal in boilers originally designed to burn gas and oil. Our goal is to commercialize an affordable conversion of gas-fired boilers to coal while meeting new source performance standards.

To accomplish this goal we propose to convert boilers to coal using the Rockwell low NO_x/SO_x burner. This is the same technology being proposed by Wisconsin Public Service Co., for a coal capable boiler.

In 1983 33.1 percent of U.S. generating capacity was designed for gas and oil fuels. These fuels produced 17.5 percent of our electric energy.

Of the nine regions defined by the National Electric Reliability Council [NERC] six share in a common heavy reliance on gas and oil boilers to generate electric power.

Funding a demonstration to benefit such a wide range of regions is commended to the committee as a well justified Federal expenditure.

Here present in support of our testimony are representatives of Rockwell International, Combustion Engineering, and Bechtel.

At this time I would like to introduce Jimmie R. Bowden of Bechtel who will speak to the proposal.

Mr. BOWDEN. Mr. Chairman, I am pleased to appear here in support of the two significant projects proposed by Houston Lighting & Power and Wisconsin Public Service.

My name is Jimmie R. Bowden and my function within Bechtel is to identify promising technology which Bechtel can help commercialize. From a different perspective Bechtel reaches the same conclusions as

HL&P, Wisconsin Public Service, and Rockwell as to the merits of the proposed demonstration.

The available bench scale and pilot plant data indicate that the technology is very promising and that the pilot plant work necessary to bring technology to the demonstration stage is now being completed.

The uncertainties of large-scale burner design and mechanical and thermal integration of the burner into an existing boiler can be resolved only by demonstration programs such as proposed. These demonstrations are not without risk, as existing generating units totaling over 400 megawatts are being offered as test beds, but the risks can be assessed and contained.

This technology is an idea candidate for consideration under the clean coal technology demonstration program. The technology is now at the appropriate stage of development and will be funded through the pilot plant stage solely from private sources.

Both host facilities will risk powerplants large enough to clearly demonstrate the commercial feasibility of the technology. The process inventors are corporately and personally committed to the success of the demonstration.

Bechtel is experienced in first-of-a-kind powerplant design and construction and believes in the merit of the technology.

Beyond coal conversion capability, the technology is an alternative to scrubbers in retrofit situations in plants burning high sulfur coal.

In sum, these are well conceived projects strongly supported by competent organizations, employing technology developed without Government assistance and broadly applicable to national problems.

Thank you very much, Senator.

PREPARED STATEMENTS

Senator JOHNSTON. Thank you very much, gentlemen.

[The statements follow:]

STATEMENT OF WILLIAM M. MENGER

Thank you, Mr Chairman, for the opportunity to appear today before this hearing. My name is William M Menger of Houston, Texas. I am employed by Houston Lighting & Power Company (HL&P) as Chief Consulting Engineer, in which capacity I am responsible for the coordination of all research and development activities in the company.

HL&P appreciates the attention being given to clean coal technologies. We see two purposes being served:

A. Finding better ways to burn coal cleanly in boilers designed for coal, thus enhancing the nation's air quality; and
B. Finding ways to reduce the nation's dependence on gas and oil, by demonstrating the clean combustion of coal as fuel in boilers which were originally designed to burn gas and oil.

In this testimony, I would like to briefly discuss the following points:

1. Why it is important for the USA to develop clean coal technologies,
2. Why the technology proposed by HL&P was chosen for this application, and
3. Why this accelerated development merits Federal support.

1. Why is it important for the US to develop clean coal technologies?

We began the use of oil as a boiler fuel when the USA was an exporter of petroleum; we now believe that energy independence can be brought closer for the USA through increased dependence on domestic coal as a substitute for oil as a fuel, with a simultaneous reduction in the national balance of payments deficit. We began the use of gas as a boiler fuel when it was primarily a waste product of the oil industry; we now perceive it to be a valuable chemical resource which should be conserved. Additionally, the ability to use higher sulfur coals will expand our nation's resource base.

2. Why the technology proposed by HL&P was chosen.

HL&P has investigated numerous proposed ways to burn coal in boilers which were originally designed to burn only gas or oil. Two direct burning methods are under our study:

One method involves the burning of micro-fine dry coal, while the other method involves the burning of a mixture of coal and water. Either method would require the addition of equipment to control the emission of ash, and would also require obtaining long term exemption from New Source Performance Standards; thus the direct burning approach leaves room for improvement.

Two coal gasification methods are also being studied for their potential application at HL&P. One of these is the Shell gasification technology, which is a clean coal technology, soon to be demonstrated by Shell at Deer Park, Texas. The other one is an in-house research project on the biological gasification of Texas lignite, which has not yet been developed to a point of readiness for commercial demonstration.

Our goal is to commercialize an affordable conversion of gas type boilers to coal while meeting New Source Performance Standards, and slagging combustor technology seems to be consistent with that goal. After preliminary studies with regard to such combustors, we joined a consortium for supporting the development of the Rockwell technology.

3. Why this accelerated development merits Federal funding.

In 1983, 33.1% of the generating capacity in the USA was designed for gas and oil fuel,1/ and these fuels produced 17.5% of our electric energy.2/ Two-thirds of this was gas-fired and one-third oil-fired.

The great majority of the oil fired electricity generated was by steam, mostly in four of the nine regions which have been defined by the National Electric Reliability Council (NERC), specifically the four which face the two oceans.3/ Likewise, the great majority of the gas-fired electricity generated was by steam, mostly in the five NERC regions which face the two oceans and the Gulf of Mexico.4/ Only three regions were relatively independent of both oil and gas; thus six of the nine NERC regions share in this heavy reliance on gas and oil fired boilers for generating electricity. Funding a demonstration project to benefit such a wide range of regions around the nation (and ultimately the nation as a whole) is commended to this committee as a well justified Federal expenditure.

At this time, I would like to introduce the following persons who are available to address any questions. First is the inventor of the Rockwell technology, Mr Owen Dykema. Also from Rockwell is Mr Keith Moore. From Combustion Engineering is Mr Helmut Hambrecht. From the HL&P technical staff is Dr E E Kern. Mr Harold Newth is an independent power plant consultant retained by HL&P to do a feasibility study on the project.

HL&P has engaged Bechtel to do the pre-engineering necessary for the development of a conceptual cost estimate on the project. Mr Jimmie R Bowden is here today representing Bechtel, and I would like to call on Mr Bowden for a few comments.

Statement of Jimmie R. Bowden

Mr Chairman, I appreciate the opportunity to appear in support of Houston Lighting & Power's proposal to demonstrate Rockwell Corporation's Low NO_x Burner technology. My name is Jimmie R Bowden. I am Manager of Project Development for the Research & Engineering Operations of Bechtel Group, Inc. in San Francisco. My function is to identify promising technology which Bechtel can help commercialize.

Bechtel views this technology from a different perspective than HL&P and Rockwell, but reaches the same conclusions as to the merit of the proposed demonstration. We have reviewed the available bench scale and pilot plant data and concluded that the technology is very promising but that more pilot work is necessary and a large scale demonstration is mandatory. The required pilot work is being completed under private funding.

The uncertainties of large scale burner design and a mechanical and thermal integration of the burner into an existing boiler can be resolved only by a demonstration program such as proposed by HL&P. This step is not without risk, as two existing generating units totalling 350 MW capacity will be utilized, but the risks can be assessed and contained.

This project is an ideal candidate for consideration under the Clean Coal Technology Demonstration Program.

o The technology is now at the appropriate stage of development and has been funded solely from private sources

o The host utility will risk a power plant large enough to clearly demonstrate the commercial feasibility of the project

o The process inventors are corporately and personally committed to the success of the demonstration

o Bechtel is experienced in first-of-a-kind power plant design and construction and believes in the merit of the technology

o Beyond the coal conversion capability to be demonstrated, the technology is an alternative to scrubbers in retrofit situations in plants burning high sulfur coal

In sum, this is a well conceived project, strongly supported by competent organizations, employing technology developed without government assistance, and broadly applicable to national problems. Bechtel is pleased to support this project in its request for assistance in commercial demonstrations.

ATTACHMENT 1

STATEMENT OF THE HOUSTON LIGHTING & POWER CO

PROPOSED BOILER CONVERSION

Houston Lighting & Power Company, the nation's fifth largest investor owned utility relative to KWH sales, is dependent on large amounts of natural gas for fuel. Even though 20% of its generating capacity is coal fired, the company is the largest gas user in the US.

We are seeking ways to burn coal cleanly in existing boilers. We have five studies at various stages of development to accomplish this; they are:

- o Conversion of a 174 MW boiler to burn coal/water slurry fuel
- o Applications of Shell coal gasification technology
- o Biogasification of Texas Lignite
- o The use of the Rockwell Low NO_x/SO_x burner for direct firing of coal in existing gas designed boilers, and
- o The use of micro-fine dry pulverized coal in existing gas designed boilers

We believe that the Rockwell burner offers the best technology for cleanly converting existing boilers to coal without the need for scrubbers or catalysts for SO_x and NO_x control. The burner also removes a portion of the ash in the coal in a slag separator (approximately 85%); however, a baghouse or electrostatic precipitator is required for meeting particulate emission standards.

HL&P has joined with Rockwell and a consortium of US and Canadian utilities to develop the Rockwell technology. A 25 million Btu/hr pilot scale burner in Canoga Park, CA is currently operational for design and coal testing purposes. A further program extension is planned in 1988 -- three 100 million Btu/hr burners in a coal designed boiler in Edmonton, Alberta, Canada. No US Government funds are being used for these two demonstrations, although the Alberta Provincial Government is providing financial assistance for the demonstration phase.

The consortium consists of the following companies:

- o Southern California Edison
- o Niagara Mohawk
- o Wisconsin Public Service
- o TransAlta Utilities
- o Rockwell International, and
- o Houston Lighting & Power

In response to the DOE solicitation for "Clean Coal Technologies", HL&P submitted a proposal to convert two 176 MW gas-fired boilers to coal, using the Rockwell Burner. We believe that this unique technology has the potential for the retrofit of many existing gas-fired boilers in the US.

Subject to the approval of the Texas Public Utility Commission, HL&P proposes to pay back (with interest), all government funds from net operating savings firing coal in these boilers.

ATTACHMENT 2

STATEMENT OF ROCKWELL INTERNATIONAL

THE ROCKWELL LOW NO$_x$/SO$_x$ BURNER

For the past six years Rockwell International has been developing a unique process and burner for clean combustion of coal. The underlying theory indicates that virtually complete elimination of both SO$_2$ and NO$_x$ emissions from coal combustion is possible. Test results to date have largely verified this potential, with some cases showing more than 95% reduction of both air pollutants from uncontrolled levels. In addition, removal of a major fraction of the coal slag and flyash in the burner makes possible retrofit to coal of plants originally designed for gas or oil fuels. Installed costs of the burner system have been estimated to be about 10 to 20% of those for flue gas cleaning systems providing similar degrees of SO$_2$ and NO$_x$ control.

Five million dollars in private funds have been invested in development of this burner to date. Initially, all concepts were conceived and verified experimentally at Rockwell with Rockwell funding. Subsequent pilot-scale development has been guided and supported by a consortium of US and Canadian utilities and the Canadian Electrical Association. Although US governmental agencies and utility associations have been kept apprised of progress, program support has not been solicited nor obtained, to date, from these sources. Patents have been issued or allowed on all aspects of the processes.

Completion of pilot-scale development is scheduled for 1985. A full-scale burner demonstration on an operating electric utility boiler near Edmonton, Canada, is planned for the 1985-1988 period at an estimated cost of $8 million (US). Funding will be provided by US and Canadian utility companies and by the Alberta Provincial Government. This demonstration will involve the local western Canadian low-sulfur coal. To fully demonstrate and commercialize the burner, other full-scale programs will be necessary. It will be necessary to demonstrate conversion of boilers designed for gas and oil fuels to coal and to show effective performance with high-sulfur eastern coals.

The Rockwell burner is the only concept at a comparable stage of development that offers low-costs, effective control of both SO$_2$ and NO$_x$ air pollution emissions from coal combustion plus the capability to retrofit boilers designed for gas and oil fuels to coal. To have a significant impact on the acid rain problem within the next decade, it will be necessary to retrofit existing utility boilers and a large number of industrial combustion devices for increased air pollution control. In addition, it appears that the Rockwell burner will be capable of total SO$_2$ and NO$_x$ control to levels comparable to or below those of oil- and gas-fired plants, thereby allowing conversion of these plants to low-cost, domestic coal.

In addition, costs of such conversion with the Rockwell burner are expected to be significantly lower than those of other currently available systems, providing the nation with cleaner air, acid rain reduction, and increased use of domestic coal at a reasonable cost.

ATTACHMENT 3

STATEMENT OF THE BECHTEL POWER CORP

CONVERTING UTILITY BOILERS FROM NATURAL GAS TO COAL USING THE ROCKWELL LOW NO$_x$/SO$_x$ BURNER

HL&P W A PARISH UNITS 1 and 2

Bechtel Power Corporation is participating with Houston Lighting & Power in the development of this commercial application of the Rockwell Low No$_x$/SO$_x$ Burners (LNSB). Bechtel has reviewed the technology of the burner and anticipates it will be a cost effective means to convert existing oil and gas-fired central power stations to pulverized coal, and simultaneously produce SO_x and NO_x emissions in compliance with NSPS requirements. At the present time, Bechtel is investigating opportunities to join Houston Lighting and Power and the other consortium members as a participant in the technology development of the Rockwell LNSB.

Bechtel's experience in the design and construction of fossil-fired power plants spans a period of over 37 years. During this time, Bechtel has worked on over 277 gas, oil and coal fired plants ranging in size from 8000 KW to 800,000 KW. This experience represents over 65,000,000 KW of installed electrical power generation capacity.

Bechtel's working relationship with Houston Lighting & Power began in 1977 when Bechtel contracted to provide Architect/Engineering services for W A Parish Unit 7. After the engineering for Unit 7 was underway, Houston Lighting & Power increased Bechtel's scope to include the design of Unit 8. During this period, Bechtel and Houston Lighting & Power developed a strong, team oriented working environment. Each of the units was constructed in 27 months, within the original budget and the turbine rolled ahead of schedule. During the design of these plants, Bechtel participated in the development of the project management system used by Houston Lighting & Power and the related cost control and scheduling systems.

Houston Lighting & Power recently contracted with Bechtel to provide a conceptual design and cost estimate for the addition of the Rockwell LNSB's to W A Parish Units 1 and 2. The combined resources of Bechtel Power with its extensive power plant project experience along with Bechtel's Research and Engineering's professional staff will make available an effective partner for Houston Lighting & Power in the development of this conversion technology.

Attachment 4

STATEMENT OF THE COMBUSTION ENGINEERING, INC

For more than seventy years, Combustion Engineering has been a leading worldwide supplier of steam supply systems and related equipment and services for power generation.

CE was recently contracted by Houston Lighting & Power Co. to study the feasibility of converting the W A Parish units 1 and 2 (CE designed gas-fired units) to coal firing utilizing the Rockwell Combustor firing system. We have provided the Light Company with the preliminary results of that study and cost estimates associated with the conversion which indicate that it is technically feasible to make this conversion. A report will be issued in the near future which will provide predicted performance and other operating parameters.

CE is committed to working with the Light Company in its overall efforts to provide a commercially viable means of converting existing gas or oil fired equipment to coal firing with minimum impact on the environment.

I have enclosed a copy of our 1984 annual report which further details CE's overall experience in the power and related industries.

ATTACHMENT 5

FOOTNOTES

1. 1984 Annual Data Summary Report, "ELECTRIC POWER SUPPLY & DEMAND 1984 - 1993" by the North American Electric Reliability Council (NERC), Page 22; Table on "Share of Actual Generating Capability, 1983".

2. Ibid., page 60; Table on "Share of Actual Net Generation, 1983".

3. Ibid. NERC-US generation is reported as follows:

Oil - Steam	130,677	thousand	MWh	-	Page 70
Oil - Combustion Turbine	2,675	"	"	-	" 71
Oil - Combined Cycle	672	"	"	-	" 72
Total is	134,024	"	"		

Fraction of Oil - Steam is 0.975

4. Ibid. NERC-US generation is reported as follows:

Gas - Steam	251,234	thousand	MWh	-	Page 73
Gas - Combustion Turbine	2,455	"	"	-	" 74
Gas - Combined Cycle	11,829	"	"	-	" 75
Total is	265,518	"	"		

Fraction of Gas - Steam is 0.946

STATEMENT OF BERN E. DEICHMANN, VICE PRESIDENT OF MARKETING FOR TRANSAMERICA DELAVAL, INC.

Senator JOHNSTON. Next we have Mr. Bern E. Deichmann with Transamerica Delaval, Inc.

Mr. DEICHMANN. Senator, I am Bern E. Deichmann, vice president of marketing for Transamerica Delaval, Inc. Transamerica Delaval is headquartered in Lawrenceville, NJ, and has manufacturing facilities at 20 locations in the United States and overseas.

In order to conserve time, I propose to summarize my statement and request that the full statement be entered into the record.

Senator JOHNSTON. All full statements will be put in the record.

Mr. DEICHMANN. That you.

We are most grateful for the opportunity to testify on behalf of the clean coal technology program and to acquaint the committee with our proposal. We believe strongly in the necessity to accelerate the wise, efficient, and clean use of our coal reserves. We joined the Clean Coal Technology Coalition to assist the Congress in this and we fully endorse their statement of support.

The overall objectives of our coal gas diesel program are the timely development, research, and verification testing needed to achieve first overall efficiencies greater than 50 percent, second, a cost of electricity less than that for coal-fired conventional steam plants with flue gas desulfurization, third, emission of atmosphere pollutants within limits set by the Federal standards and, fourth, a fully developed and commercially available plant by the 1990's.

These objectives are realistic; technology can be applied and verified; hardware modifications are within the current state of the art; the economics are real and attractive and the need is great.

To accomplish these objectives, a full-sized pilot plant consisting of the following major components is required. First, a low-Btu gasifier, second, a gas cleanup system, third, a medium-speed dual fuel engine system and, fourth, a waste heat recovery system.

Transamerica Delaval proposes to study, develop, and test a system that will provide an economical way to burn coal cleanly. We propose to build a full-scale pilot plant to demonstrate the technology, the economics and the low environmental impact.

The testing proposed will be phased from burning cold clean low Btu gas at the start to it burning hot dirty gas. The objective is to determine how hot and how dirty the gas can be for the engine to burn it economically and still meet all the environmental criteria.

We propose that a dual-fuel, heavy duty medium-speed diesel engine of proven design be employed driving a generator to produce electricity fueled by low Btu gas produced from coal. The development aspects of our proposal are in two principal areas.

First, apply the most modern cost-effective technology to remove sulfur and other pollutants from the produced gas so that the atmosphere remains clean and, second, developing the necessary modifications to the engine to most efficiently burn the low-Btu fuel and achieve the maximum power rating.

We believe the proposal we have submitted will lead to the mitigation of acid rain as more coal is burned in the future by utilities and industry. At the same time our proposed plant will, one, provide measurable savings in fuel consumed per unit of electricity generated, two, rationalize the expenditure of capital to meet electrical needs of industry and smaller communities and, three, shorten the lead times for construction to 24 months or less.

Transamerica Delaval has amassed great experience over many years in fueling engines with medium Btu sewage gases. We believe our experience particularly qualifies to undertake this development and we are confident of our ability to execute the program within the time and cost constraints we have offered.

Transamerica Delaval has already demonstrated the ability of its engines to burn simulated low Btu gas in a test program conducted at our facility in Oakland, CA, late in 1983. The combustion characteristics and results were excellent.

Senator JOHNSTON. Mr. Deichmann, if I may, and I hate to cut you off, but I have been reading ahead and I have read your statement and the committee will have the benefit of your full statement.

I was interested in the fact that you will be able to factory modularize this, build it in the factory and ship it out. I think that is certainly not an essential element of these things, but I think it is a very attractive one.

PREPARED STATEMENT

Mr. DIECHMANN. The other thing is we had burned some coal tars from coal out of Utah in the engine and that was also quite successful. So we are quite confident and we thank you for the opportunity.

[The statement follows:]

STATEMENT OF BERN E. DEICHMANN

I am Bern E. Deichmann, Vice President of Marketing for Transamerica Delaval Inc. Transamerica Delaval is headquartered in Lawrenceville, New Jersey and has manufacturing facilities at 20 locations in the United States and overseas.

We are most grateful for the opportunity to testify on behalf of the Clean Coal Technology program and to acquaint the Committee with our proposal. We believe strongly in the necessity to accelerate the wise, efficient and clean use of our coal reserves. We joined the Clean Coal Technology Coalition to assist the Congress in this, and we fully endorse their statement of support.

The overall objectives of our Coal Gas Diesel (CGD) program are the timely research, development and verification testing needed to achieve:

1. OVERALL EFFICIENCY GREATER THAN 50% (coal pile to bus bar)
2. COST OF ELECTRICITY LESS THAN THAT FOR COAL FIRE CONVENTIONAL STEAM PLANTS WITH FLUE GAS DESULFURIZATION.
3. EMISSION OF ATMOSPHERIC POLLUTANTS WITHIN LIMITS SET BY FEDERAL STANDARDS.
4. FULLY DEVELOPED AND COMMERCIALLY AVAILABLE BY THE 1990'S.

These objectives are realistic; the technology can be applied and verified; hardware modifications are within the current state of the art; the economics are real and attractive; and the need is great. To accomplish these objectives a pilot plant consisting of the following major components is required: (See Schematic I attached)

1. LOW BTU GASIFIER.
2. GAS CLEAN UP SYSTEM.
3. A MEDIUM SPEED, DUAL FUEL ENGINE SYSTEM.
4. WASTE HEAT RECOVERY SYSTEMS.

Transamerica Delaval proposes to study, develop and test a system that will provide an economical way to burn coal cleanly. We propose to build a full scale pilot plant to demonstrate the technology, the economics and the low enviromental impact. The testing proposed will be phased from burning cold clean Low BTU coal gas at the start and moved toward burning hot dirty gas. The objective is to determine how hot and how dirty the gas can be for the engine to burn it economically and still meet all environmental criteria.

We propose that a dual-fuel, heavy-duty medium-speed diesel engine of proven design be employed, driving a generator to produce electricity, fueled by low BTU gas produced from coal.

The developmental aspects of our proposal are in two principal areas: FIRST, apply the most modern, cost-effective technology to remove sulfur and other pollutants from the produced gas so that the atmosphere remains clean, and SECOND, developing the necessary modifications to the engine to most efficiently burn the low-BTU fuel and achieve the maximum power rating.

We believe the proposal we have submitted will lead to the mitigation of acid rain as more coal is burned in the future by utilities and industry. At the same time, our proposed plant will:

1. Provide measureable savings in fuel consumed per unit of electricity generated,

2. Rationalize the expenditure of capital to meet electrical needs of industry and smaller communities

3. Shorten lead times for construction to twenty-four months or less.

We believe our experience in burning medium BTU sewage gases particularly well qualifies us to undertake this development and we are confident of our ability to execute the program within the time and cost constraints we have offered.

Transamerica Delaval has been performing preliminary research and has found its engine has the ability to burn low-Btu gas. The test program was conducted at our facility in Oakland, California early in 1984 and the gas was a simulated gas. Combustion characteristics and results were excellent.

We also conducted preliminary testing of coal tars produced from a Utah coal. The results of the tests were most encouraging. With additional R&D and improvements in components, our engine will be able to utilize both the gas and the tars of a gasifier and convert them to electrical energy.

Concerning sulfur removal, we propose working with a company having broad experience in this field to develop a commercial gas purification unit to incorporate into the total gasification and heat engine system.

With regard to the market for such a system, there is an increasing trend toward smaller power plants to service the industrial and utility sectors. Some conclusions from studies are:

1. Large, conventional, coal-fired plants are costly due to excessivley long design, permitting, and construction times, as well as stringent environmental controls.

2. Regulatory control making it difficult to incorporate all costs into the rate base.

3. Studies show that small units can be very competitive because:

   A. -They can be factory-built and modularized.

   B. -Utilize cogeneration to boost plant efficiencies.

   C. -Technology has improved the performance of older methods of power production, such as diesel engines, and of clean up systems associated with them.

As noted previously, when it is demonstrated in this program that a large bore, medium speed diesel engine can be run economically in an environmentally sound way on cold, clean, low BTU gas from a coal gasifier, we propose further research to expand the envelope from burning cold, clean gas toward establishing the limits of burning hot, dirty gas. Thus simplifying the total facility and improving the economic evaluation.

This phase of the project includes the study, development and testing of:

1. Improved gas clean up technologies.

2. Improved emissions control technologies for diesel engines.

3. Advanced materials for diesel engines.

4. Improved gasifier technologies.

As you can see, this program seeks to build a strong technology base for the utilization of coal-derived fuels.

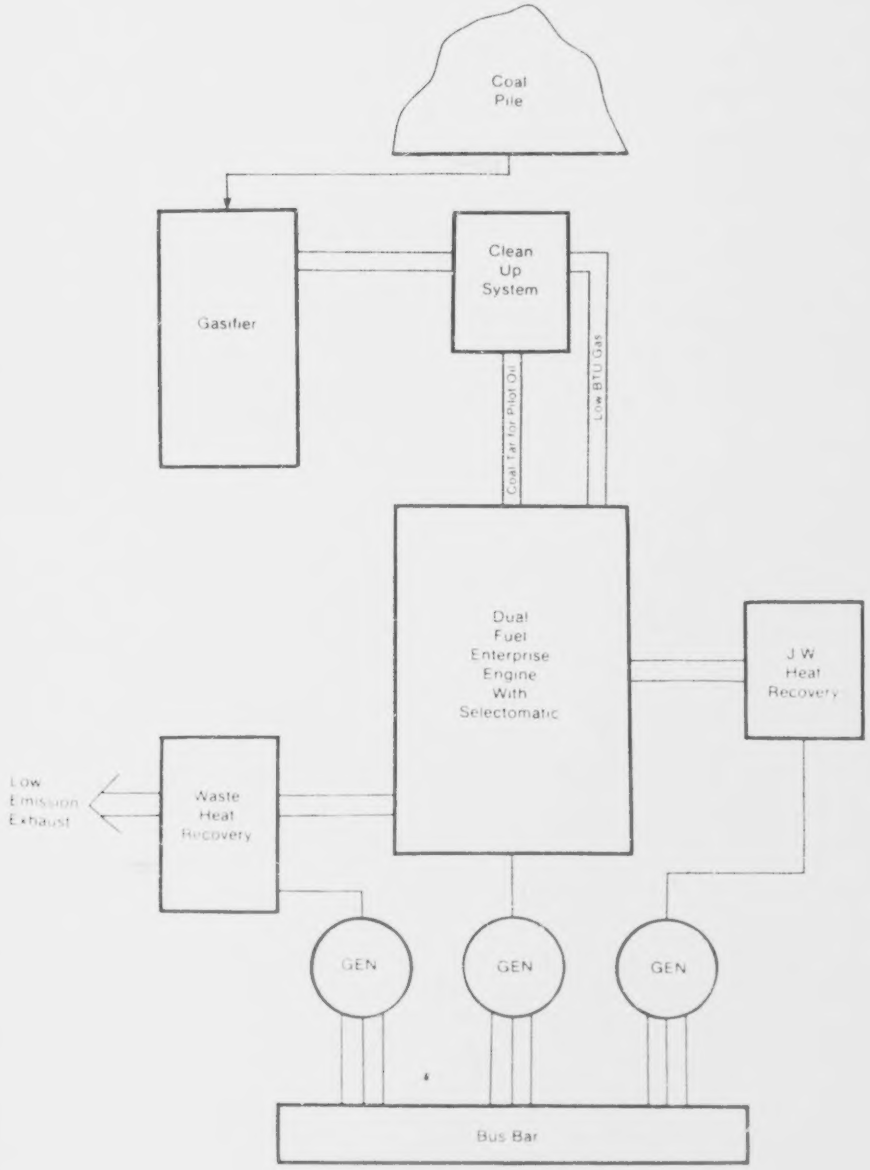
Without a strong federal role supporting fuel utilization technology, advanced heat engine capabilities will be slow in developing and there will be less incentive to bring these fuels to the marketplace. Such an approach would be a costly strategic error, probably delaying the penetration of coal-derived fuels into the petroleum market for many years.

The most effective approach for accomplishing the objectives is to heavily involve industry in all the technology programs but to rely on Government funding for basic and applied technology development and to support high cost experimental facilities. This approach will provide for a wide range of technology options and is expected to reduce costs and accelerate market entry of the systems.

In summary, Transamerica Delaval proposes to study, develop and test a full scale pilot plant that will provide an economical way for industry and utilities to burn coal cleanly. The result will be a pilot plant to demonstrate the technology, the integration of component systems, the economics and low enviromental impact for industries and utilities as they continue a transition to coal - a fuel that is not only more abundant than almost any other fossil fuel but one that reduces our dependence on foreign countries. This project will be a joint venture between the Federal government and industrial partners, and one that will provide a good return on investment for all of the participants.

Thank you

Transamerica Delaval Inc. Presents To The Department Of Energy A Clean Coal Technology Program


Coal Pile
Gasifier
Clean Up System
Coal Tar for Pilot Oil
Low BTU Gas
Dual Fuel Enterprise Engine With Selectomatic
J.W. Heat Recovery
Low Emission Exhaust
Waste Heat Recovery
GEN
GEN
GEN
Bus Bar

Coal to Bus Bar Efficiency 50%

STATEMENT OF ROSS E. ROWLAND, JR., CHAIRMAN OF THE BOARD, AMERICAN COAL ENTERPRISES, INC.

Senator JOHNSTON. Next we have Mr. Rowland from NHD Development Corp.—no, excuse me, from American Coal Enterprises.

Mr. ROWLAND. Well, I have been looking for a new job, Senator, and maybe you will help me get one. [Laughter.]

I don't know who I have just replaced. OK, there he is. [Laughter.]

We are honored to be here as sort of the little guys in the act from the numbers I have heard my predecessors here mention.

We in 1980 formed a new company called American Coal Enterprises and have raised, Senator, $3.5 million in the private sector since then to design a new generation coal-fired railroad locomotive of all things to return coal as a primary fuel for the railroads of this country and later the world.

It is a very complex and involved project and we are pleased to tell you that through a series of month-long tests that we ran in January in the State of West Virginia with a first generation engine heavily retrofitted with instrumentation to give us tests and engineering data to complete the design of the new locomotive, the results were extremely successful.

I am glad to tell you that we received the full cooperation and support of both the CSX Corp., owner of the Chessie System Railroad, American's largest coal hauling railroad system, and the Foster Wheeler Corp., who are working hand in glove with us on the engineering aspect.

I am speaking outside of my prepared statement, which I will leave with the committee, and I wanted to make what we consider to be one major point to you and the committee if we could.

We think that in certain instances, and our project in our opinions one of them, Federal assistance is critically important if new ways to consume coal environmentally acceptably in this country are going to happen.

Why? If I may use the railroad industry has an example, I think you will quickly get the picture. The railroads of this country last year consumed approximately 3¼ billion gallons of No. 2 diesel fuel which represents about 6 percent of all the liquid middle distillate fuel consumed in this country.

The present new locomotive market is dominated by two giants who sell between them all of the new locomotives sold in America and their technology and their investment is totally committed to electric traction. Our new locomotive proposes to use reciprocating drive to get the power to the rail and pull the train.

If our engine is successful, and obviously with admitted prejudice we think it will be, it portends to make obsolete many hundreds of millions of dollars in current investment on the part of the two present manufacturers.

Therefore, we are finding it above and beyond the $3½ million that we have raised to get to this point very difficult to raise risk capital in the private sector going up against two such accomplished and entrenched giants.

We would like to propose to the committee, not just for our program, but for all of the programs a cost-sharing loan guarantee approach where to qualify for Federal assistance a program would have to be able to generate a certain minimum percentage of cost sharing in private industry, which we think would address the DOE's problem with selecting which of the programs has the most viability and, two, on a loan guarantee basis those programs that did succeed, and obviously all of them won't, would in our opinion pay back both in terms of loan dollars and in socioeconomic benefit to the Nation, as the Japanese have proven for 35 years, more than a sound investment for the Government of this country.

PREPARED STATEMENT

I know my time is limited, but we would again like to say thank you for a chance to appear before you and to submit our written statement and tell how important we think the clean coal technology program is for the future energy independence of this Nation.

Thank you.

Senator JOHNSTON. Thank you very much, Mr. Rowland. You may be small, but I hope you are effective. I hope your machine works and I hope you will be the new Apple computer of the railroad locomotive industry. I hope all of you out there will succeed, as a matter of fact.

Mr. ROWLAND. Thank you, Senator.

Senator JOHNSTON. Thank you very much for an interesting presentation.

[The statement follows:]

STATEMENT OF ROSS E. ROWLAND, JR.

Emerging clean coal technologies should be funded by the U.S. Government for several good reasons. As Chairman of the Board at American Coal Enterprises, Inc., I have a specific interest in such funding as I will discuss below. More importantly, coal is an indigenous energy resource that can be exploited to benefit the nation in general and not only the narrower interests of individual firms and industries.

To introduce my remarks, I wish to quote from the May, 1985, Report to Congress on Emerging Clean Coal Technologies by the U.S. Department of Energy. On page C-69 are the following statements relative to a discussion of diesel engine fuel alternatives: "... Both diesel users and manufacturers face a bleak economic future unless an acceptable, lower cost fuel alternative becomes available. Some perspective of the economic significance of this is suggested by the following comparisons. Diesel fuel is projected to cost about $13.27 per million BTU in the year 2000; coal is projected at $1.76 per million BTU (1982 dollars). Assuming that an acceptable coal fuel is developed which sells at $6.00 per million BTU ($4.24 for processing plus profit), users could save about $17 billion in the year 2000. This is based on 2.5 quad total consumption - in other words, no increase in present capacity. This is a conservative assumption.

"Approximately 40,000 diesel engine units totaling nearly 90 million horsepower (MHP) currently serve U.S. electric utilities, basic industries, railroads, and inland waterway and marine shipping interests. Rail transport comprises, by far, the major source of the total (70 MHP). Inland and offshore water transport represents over 14 MHP and the remainder, nearly 4 MHP, generates utility or industrial power. In total, these units require more than 2.5 quads of high grade petroleum fuel annually (approximately 1.2 million barrels of oil per day)."

A $17 billion saving in the year 2000 is impressive. It depends upon a $6.00 per million BTU fuel that remains elusive despite intensive efforts of industry and government. Similar savings can be obtained from plain coal burned in steam-powered locomotives; coal can be burned cleanly and economically using presently available technology.

To illustrate implications of this fact in terms of the foregoing numbers, I offer the following:

1. Assume a proven coal-fired locomotive, with 15% thermal efficiency, is available by 1990.
2. Assume 6,000 units, average, are replaced in the existing 27,000 unit locomotive fleet for the years 1995 through 1999.
3. Accept diesel engine thermal efficiency at 30%.
4. Then calculate the following -

$$\frac{70\text{ MHP}}{90\text{ MHP}} \times \frac{15\%}{30\%} \times \frac{6{,}000\text{ Locos}}{27{,}000\text{ Locos}} \times \$17\text{ billion} \times 5\text{ Years} =$$

$$= \$7.35\text{ billion}$$

At $1.76 per million BTU, each locomotive will use coal worth approximately $250,000 annually. Coal purchases in the same five years amount to -

$250,000 X 6,000 Locos X 5 Years = $7.5 billion.

By the year 2000, existing clean coal technology via the U.S. railroad system could inject $14.85 billion into the economy by savings relative to diesel fuel and additional coal usage. This sum ignores the $4.24 per million BTU that represents processing if mine-mouth coal is unacceptable.

Assuming no further conversion of the locomotive fleet after 2000 (about 10,000 units would then be coal-burners), the annual benefit to the economy would be nearly $5 billion. With six or eight years experience with 15% locomotives behind them, U.S. locomotive designers will probably deliver 20% to 25% efficient locomotives in the year 2000. Annual benefits may thereby grow to $6 billion or $7 billion. Essentially, present clean coal technology can deliver almost half the benefit estimated for a thus-far unattainable diesel fuel.

I am prejudiced to believe that American Coal Enterprises' plan for returning coal-fuel to railroad locomotives is the best plan. However, I am also realistic enough to believe that any technique that promises to achieve the foregoing results should be fostered and encouraged. History records the general benefit arising from U.S. Government encouragement of railroad construction in the nineteenth century. Using domestic fuel, those railroads well-served the nation through two world wars and the greatest economic growth of any society. In the twentieth century, Government encouragement of the return to native coal as locomotive fuel can have similar benefits.

Author's of the DOE report to Congress recommend "... that no Federal incentives be provided for the emerging clean coal technologies ..." because, in part, "... free market forces are operating to select and commercialize the most efficient and environmentally-effective technologies for processing and using coal ...", and "... the Department's uncertain ability to judge which of the emerging technologies is most likely to be accepted for extensive future use by private industry." As the leader of a small firm, these notions are particularly distressing. Our experience has taught us that many distortions in our present economy defeat any free market for emerging clean coal technologies.

ACE, to use our favorite acronym, has evaluated the best of classical steam locomotive technology, combined it with scientific and engineering advances of the last three decades, and devised locomotives that have won praises from managers of major railroads; the praise arose not from a passing examination of our work, but after many man-months were devoted to detailed scrutiny of our ideas and results. Earlier this year we completed a one-month test operation with an, admittedly antique, coal-fired steam locomotive that permitted us to test a number of our ideas, and afforded an acquaintance with steam power to working-level railroad personnel. We gained from the month's activity, and the reliability of the steamer won respect of railroad people.

Nonetheless, railroad financial managers and indepenent venture capitalists see too many immediately profitable opportunities to invest such that they are unwilling to invest in locomotive development that will not return a profit for five years or more. Were we a richer company, we might be willing to wait for interest rates to fall; as it is, we have a difficult time arguing against the wisdom of a manager choosing a safe, immediate return for his investors.

There are other distortions in the system. An example can be found in the current DOE budget; this example is not a condemnation of DOE or the industrial firms involved - it simply describes the world we confront. At the present time, GE, GM, and ADL/Cooper-Bessemer enjoy one to two million dollar contracts with DOE for energy research work; these contracts are for "Research and Development" and awarded professionally and properly by DOE managers. The DOE finds the ability to judge R&D work with a pay-off in some distant future while declaring inability to judge proposed work that can pay-off in three to six years. From my viewpoint, there is a distortion in the rules governing DOE operation when they find themselves with such disjoint abilities.

To conclude, I urge you to fund emerging clean coal technologies in a manner that recognizes the substantial return to the nation from careful investment in the technologies, and permits the DOE to work around its present inconsistencies.

STATEMENT OF JOSEPH A. McELWAIN, CHAIRMAN OF THE BOARD, MHD DEVELOPMENT CORP.

Senator JOHNSTON. Next we have Mr. James McElwain with MHD Development Corp., who will keep his job. [Laughter.]

Mr. McELWAIN. Thank you, Chairman Johnston.

My name is Joe McElwain. I am former chief executive of the Montana Power Co., and its wholly owned subsidiary, Western Energy Co., which is the sixth largest surface coal mining operation in the United States, mining some 12 million tons of coal a year.

I appear here today as chairman of the newly organized MHD Development Corp., made up of approximately 10 major corporations throughout the United States.

I am particularly pleased to be here today to commend you and to thank you for the authorizing of the emerging clean coal technology program. I think it is one of the outstanding programs that the Congress has promoted in many years. Coal is one of the greatest energy resources that we have available to us, as we all know.

It is the most plentiful energy resource that represents some 35 percent of the world coal reserves of fossil fuels in the world. We should be utilizing that coal, but its characteristics have some drawbacks.

A research and development program is vitally needed that allows utilization of coal in an efficient and environmentally acceptable manner. Utilization of our great coal resources would go a long way toward helping solve one of our great problems we have at the present time, and that is the problem of deficient trade balances at the rate of some $130 billion a year, a substantial portion of which comes to buy foreign supplies of energy.

We must proceed with a program of research and development that internalizes our energy and coal resources. The MHD process, magnetohydrodynamics is one of the highest payouts of any of those special research and development projects we have. It goes a long way to solving the environmental problems associated with acid rain. It has the potential of upgrading the utilization of the burning of coal from somewhere between 30 to 35 percent efficiency to 40 to 55 percent efficiency.

Last year the budget from the administration contained a 5-year multiyear program for proof of concept and suggested that the private industry should proceed with possible retrofitting of a facility located in Montana on Montana Power Co.'s system.

The funding of some $31 million was put up last year with language that said that this area needs a consistent program of multiyear funding so that we can reach the proof of concept in 5 to 6 years. That level of funding is a little low and should be somewhere around $45 million a year for the next 5 years. I think that would be adequate to get the job done in the timeframe I am talking about.

Concurrently with that and in tandem with it, we should be engineering a retrofit of an existing plant. Montana Power Co., has offered its 60 megawatt Bird plant for that purpose. That would go forward at the same time as proof of concept.

There were five meetings last year with DOE and several industry groups concerning this program with good progress being made. All of a sudden on December 14 the program was abruptly cut off. Mr. Vaughn of DOE has stated that MHD is a sound concept, but we don't have money to fund the program.

There are a good many reasons for us to continue the program outlined in last year's request and that requires the continued multiyear funding of the proof of concept and it also involves moving forward with the retrofit program that was discussed with DOE.

In doing that, MHD Corp., was created early this year with its charter members set forth in my statement.

Senator JOHNSTON. Mr. McElwain, if I may interrupt you, and I hesitate to do so, but in the interest of time I will. I have been interested in MHD and our colleague, Senator Melcher has, as you know, been a very strong proponent of MHD.

Mr. MCELWAIN. And Senator Stennis has been.

Senator JOHNSTON. Absolutely. If we can develop it, it would be a tremendous program.

I see that you have a proposal for $412.8 million with a Federal share of $206 million.

Mr. MCELWAIN. That is correct. That is the PON that is before the——

Senator JOHNSTON. Your problem, of course, is that we only have $750 million.

Mr. MCELWAIN. I recognize that.

Senator JOHNSTON. And this would be a very large part of that, but I hope we are going to find a way to keep research on MHD, particularly the commercialization of MHD, going. We will certainly do our very best to do so because it is an exciting technology and is inherently clean.

Mr. MCELWAIN. Well, I am a firm believer that this represents one of the ways of generating electricity in the future in a very efficient and clean manner and it should go forward.

Senator JOHNSTON. Let me ask if you are willing to cost share 50 percent up front?

Mr. MCELWAIN. The proposal that has been made by the MHD Development Corp., would envision the retrofit part of the project to be 50 percent funded by private resources.

Senator JOHNSTON. Is that up front?

Mr. MCELWAIN. It involves as you go along, some of it involves the commitment of a plant which certainly has a value of saving in that type of a project of some $150 million.

PREPARED STATEMENT AND SUBMITTED QUESTIONS

Senator JOHNSTON. Thank you very much, Mr. McElwain. We will insert your statement in the record.

[The information follows:]

Statement of Joseph A. McElwain

My name is Joseph A. McElwain. I am Chairman of the Board of the MHD (Magnetohydrodynamics) Development Corporation. In January, I retired as Chairman and Chief Executive Officer of the Montana Power Company. One of the primary purposes of the MHD Development Corporation is to initiate, promote and coordinate efforts toward effecting commercialization of the technology of Magnetohydrodynamics. The charter companies committed to this corporation are Avco Everett Research Laboratory, Inc., Babcock and Wilcox Inc., General Dynamics Corp., Gilbert/Commonwealth, Montana Energy Research and Development Institute, The Montana Power Company, MSE Inc., TRW Inc., and Westinghouse Electric Company. These companies and I have confidence in MHD.

The first action of the MHD Development Corporation was to propose an MHD retrofit demonstration project that provides for a fully integrated MHD development plant. The Montana Power Company will make its Frank Bird Power Plant available to the corporation as the retrofit host. The companies cited above participated in the proposal which offers to cost share 50 percent of the project on a 50/50 basis with the Government. It was submitted to the Deparment of Energy in response to the Program Announcement: Information Regarding Emerging Clean Coal Technologies, Federal Register, Volume 9, No. 229, 27 November 1984. The proposal entitled "Design, Construction and Operation of a Demonstration Coal-Fired Magnetohydrodynamic Steam Power Plant" also contains letters from the Electric Power Research Institute, Edison Electric Institute, MHD Task Force, and five representative utilities supporting the continued development of the MHD technology and this proposed demonstration project.

Formation of the MHD Development Corporation and the offer to cost share the project are tangible proof of industry interest, commitment and belief in the potential of the Magnetohydrodynamic technology. These charter companies are proposing a large stake in the project and are committed to its successful completion.

This corporation and its proposed project would not have come to fruition if the MHD technology development had not been able to meet its milestones or if the DOE had not developed its multiyear, proof-of-concept program directed toward an MHD retrofit. You can understand our discouragement, disappointment and frustration when the DOE proposed terminating the MHD effort in FY 1986.

DOE's multiyear program directed towards an MHD retrofit demonstration plant, which DOE presented to Congress in June, 1984, is a good program and an essential program if MHD is to come to fruition. The ramifications of dropping this program will affect many areas beyond MHD power generation. The nation's energy independence program, its credibility in high technology development and the Government's credibility as a partner in any cost-sharing venture are all at stake. Industry is serious about MHD, but it must have a partner, a reliable partner: the Government.

The DOE's June plan recognized that MHD is not a mature technology. MHD has high cost and a long lead-time to ultimate development. DOE's offer to make the CDIF and CFFF available to industry for further development is mute and unrealistic. Industry does not have the resources to assume responsibility for the proof-of-concept program. If the MHD development is to progress, the Federal Government must continue to underwrite the proof-of-concept with about the same level of private participation that already exists.

Substantial industrial investment will not begin until the retrofit stage. The near term financial conditions of the utilities and supporting industries does not permit substantial cost participation prior to the demonstration facility. As with all new and old technologies, substantial risk will still be present in the scale-ups required and in the first integration of all the MHD components into a working system in the demonstration plant. Any return on investment is a long-term situation, even after the demonstration project for marketing itself is lengthy and expensive. For MHD to be marketable, the durability and reliability tests must be successfully completed. Still, the large potential benefits indicate the risks are worthwhile.

The DOE plan says that "the MHD program has reached a critical decision point; the technology is ready for integrated proof-of-concept system/subsystem tests. It is time to focus the program on the least-cost, shortest development path to establish the technology base for MHD power systems." Upon successful completion of this program, the DOE plan calls for a "preliminary design (Title I) of the retrofit in late 1987 and the detailed design (Title II) in late FY 1987 or 1988." The MHD Development Corporation strongly supports this position and has designed its proposed MHD retrofit project to correspond to the DOE plan and to serve as the focus for the DOE's proof-of-concept program.

The proposed MHD retrofit at the Bird Plant would bring all the components and subsystems in a fully integrated facility for the first time and at a utility site. The size would be sufficient to address the technical phenomena that occurs with scale up, as well as large enough to address the risks involved in the additional scale up required for a commercial plant. It also will provide economic data and "hands on" utility operator experience. Transition to commercial demonstration would commence about 5.5 years after beginning of the preliminary design.

These project milestone dates can only be met if DOE's core program to test the components and prototypic hardware is maintained and taken to completion. The work initiated in previous years and being carried on at both the CDIF and CFFF in regards to coal combustion, channels, HRSR and downstream development, needs to be completed at the same time as the initial design stages of the demonstration project. Both aspects of this program, the DOE core proof-of-concept program and the demonstration project are timely and necessary to take the MHD technology to a useful coupletion.

As requested by the referenced PON, substantial (50 percent) sector cost participation is proposed. The industrial participation is backed by companies having the capability, experience, and resources to support this commitment. They have documented with letters of intent their willingness to participate with the Federal Government in this worthwhile project. Yet, participation with the Government as a partner does have its problems. These problems should be recognized both from the industrial and Government viewpoints. For example:

1. Current market conditions.
2. Market penetration costs and risks.
3. Patent positions.
4. Tenuous Government funding by Congress and/or the Administration.
5. Need for assurances of continuity.

It is encumbent on the Federal Government to prove itself as a reliable partner. A multiyear program directed towards the retrofit is essential. A return to the five year plan proposed by the DOE in their 1985 budget presentations is needed. A five year program alone, without adequate funding, would not achieve the goals required. Adequate funding would be approximately $40 million a year accompanied by a firm and reliable Government policy to pursue the proof-of-concept program to fruition. The start-stop policies of the past have minimized the effectiveness of the monies spent. The history of MHD does not give anyone confidence in the Federal Government as a reliable partner in developing energy systems.

Industry has contributed over $40 million to the development of MHD and can be expected to continue to contribute during the proof-of-concept program. The amount that will be contributed will depend upon Industry's perception of how serious the Government, and particularly the Administration, is regarding the continuation of the MHD program.

Since 1973 when the United States received the signal of our vulnerability to dependence upon foreign sources of energy, the need for internalizing our energy capability through the greater utilization of our vast coal resources has been recognized. As you are well aware, we have substantial political and socio-economic problems to overcome before nuclear power becomes a continuing source of supply for our increased electrical energy needs. This leaves our great coal reserve as the one reliable source of internally generated energy. The United States possesses over 35 percent of the known coal reserves of the world, some 450 billion tons. The states of Montana, Wyoming and North Dakota possess approximately 45 percent of the U.S. coal reserve.

It is clear that coal must assume an increasing part of our national fuel mix. We all know how the coal window has enlarged versus the previously perceived nuclear option. But we have not been moving with dispatch in this critical area. In 1974, only 44 percent of the electricity produced by utilities came from coal. In 1980, that figure had grown by only 6 percentage points -- to only 50 percent -- while the consumption of electricity had leaped 19 percent.

Looking just a few years into the future, the best forecasts indicate that the demand for electricity will escalate 114 percent by the turn of the century because electricity is that blessedly versatile form of energy that can serve many needs. Coal could and should be used to generate more than 2/3 of our total electricity, assuming attractive economics and superior technology.

Yet, without MHD or some unforeseen exotic technology, coal cannot be expected to assume its destiny in our energy mix. Only with the massive gains in efficiency, economics and environmental control offered by MHD can coal play its assigned part in the shift from primary reliance on shrinking oil suppliers to our relatively abundant coal reserve. Prolonging the life of our coal supply through the efficiencies of MHD suggests that we should follow a course that will bring about expeditious application of this promising technology.

From the perspective of coal utilization, MHD presents the only direct coal conversion technology on the scene today that increases efficiency as well as meets environmental standards and goals. MHD can utilize all coals, both low and high sulfur.

MHD is a relatively simple conversion process which moves a hot conductive gas through a strong magnetic field which then causes current to flow in the gas. MHD has the highest potential efficiency of all the new coal-burning technologies; its combustion process inherently controls SO_x and NO_x. The impacts of burning coal 50 percent more efficiently has tremendous benefits in addition to fuel savings by reducing related environmental impacts through less mining, less transportation and less effluents.

From the perspective of the national need for electricity, a shift to electricity has evolved over many decades, as unique applications have been developed capitalizing on electricity's special end-use flexibility. Over the past 20 years, the total electricity made available for use in the United States has increased by more than 150 percent. The use of electric power continues to parallel the U.S. Gross National Product (GNP). Over the past 10 years non-electric energy use has declined by 16 percent while electric power consumption has grown by a total of 25 percent. During this time span, the economy expanded by 25 percent. An increased use of electrical power has occurred in every sector of the economy -- residential, commercial and industrial. Again from 1973 to 1983, residential and commercial demand increased by 26 percent and 35 percent, respectively. Industrial use has rebounded from the 1982 decline, increasing 4.2 percent in 1983 and by a total of 13 percent since 1973.

From the perspective of the state-of-the-art for MHD, its track record in meeting its milestones is well known. Some of the advances warrant repeating from my testimony before this committee last year.

"The dollars spent have brought significant advances in recent years in areas which at one time were considered show stoppers.

1) Channel life has gone from seconds to minutes to 1300 hours testing and an extrapolated life of 8000 hours.

2) A 4800° coal combustor has been successfully developed and tested by TRW at the 20 MW_t level and 80 percent slag rejection with testing of a 50 MW_t combustor under way.

3) High temperature air heaters have not been successful. The near term alternative is the use of oxygen enriched air at a 3 to 4 percent efficiency loss, while development continues.

4) Steam bottoming data is encouraging - Argonne National Labs and CFFF have successfully used soot blowers to strip MHD-type ash from tubes and run successful coal-fired tests.

5) A super conducting magnet of 6.2 Tesla has been built and tested at Argonne National Labs.

6) A successful DC-AC inverter was developed by the Electric Power Research Institute and installed/operated at the CDIF.

7) Environmental Intrusion - CFFF tests on SO_x and NO_x are well below EPA limits.

8) Spinoffs have occurred - atmospheric slag rejecting coal combustors - low NO_x combustors - high temperature heat exchangers - hot gas (plasma) research, etc."

In summary, I urge adequate financial support of MHD as a technology whose long-term promise transcends parochial interests and the immediate Federal commitment to a broad range of budgetary stringencies. MHD offers our nation, its utility customers and its utilities exceptional opportunities to replace dwindling oil reserves with coal in our total energy mix; to conserve our lone abundant energy resource by making the most efficient possible use of coal; to burn coal in the most environmentally acceptable, efficient manner; to facilitate the ability of utilities to meet national energy goals; and to offer the user of electricity hope of genuine progress being made in combating the escalation of the price of that energy form. I believe continued support for MHD is imperative in the context of national interest. In conclusion, let me repeat: MHD has been funded for the past several years at $30 million, the absolute minimum needed to make meaningful progress. To achieve adequate progress in the proof-of-concept phase, $40 million is required annually. Thank you for your attention and consideration.

Questions Submitted by Senator J. Bennett Johnston

How would the emissions from your project compare with present environmental regulations governing your location and type of facility?

ANSWER:

Emissions - SO_x and NO_x emissions from an MHD coal-fired plant should be well below the current or anticipated New Source Performance Standards (NSPS) which are the standards that apply to our facility. This evaluation is based on current test data from the DOE, MHD Coal Fired Flow Facility (CFFF) in Tullahoma, Tennessee. Two of their charts are enclosed. Particulate emissions can be controlled through conventional processes and confirmation tests are part of the current CFFF test program. MHD can burn all types of coal cleanly and 50% more efficiently; therefore, there are tremendous related environmental benefits through less mining, less transportation, less effluents and less water per kW/hr of electricity produced.

How do the economics of your proposed project compare with conventional coal-based technologies that you might otherwise use?

ANSWER:

Economics - The retrofit project proposed can prove MHD's commercial viability at the least cost to the government and in the shortest possible time versus other demonstration options. As a first-of-a-kind, totally integrated MHD plant, the costs would exceed those of building a similar conventional coal-fired plant. These type costs are typical of first-of-a-kind, new technology plants. However, the savings from just two mature MHD plants would pay for all the research, development and demonstration costs for MHD. The proposed retrofit project would operate at an efficiency equal to the current coal-fired plants and therefore, after the demonstration objeectives are achieved, the retrofitted Bird Plant would have the potential of being a competitive power resource for the remaining life of the plant.

How soon could construction begin on your project?

ANSWER:

Start-of-Construction - The start-of-construction is dependent on the government committing itself, as a reliable partner, to actively pursue its proof-of-concept program and direct it towards the MHD retrofit. The retrofit project can proceed in parallel with an adequate proof-of-concept program. Construction could begin approximately two years after the start of the coordinated program, 1988 if the coordinated program was started immediately.

How long do you propose to operate your project with Federal cost-sharing? And what will happen to the project after that time?

ANSWER:

Cost-Sharing - Federal cost-sharing would commence with approval of the project. The preliminary engineering, construction and transitional testing to commercial demonstration would take about seven years. This means if the coordinated proof-of-concept and retrofit programs started immediately, design could begin in 1986, construction could be completed in 1991 and test operations completed by 1993. Commercial demonstration could then proceed. Since this is a construction project, typically expenditures tend to follow a Bell Curve with less expense on the front and the back but a base support throughout the project.

Project Disposition - It is anticipated that the successful Bird MHD retrofit, though not of commercial size, will have the potential of being an economically viable power source on The Montana Power Company system. Serious analysis will be performed for returning the Bird facility to The Montana Power resource base.

Do you have any estimates of direct or indirect employment benefits resulting from your proposed project?

ANSWER:

Employment Estimates - These estimates of employment are based on a typical coal-fired plant with consideration given the added requirements of a first-of-a-kind research/demonstration plant. Additional personnel are required for such things as on-site research/development engineers, extra start-up crew, extra operations and maintenance personnel to support unique changes and modification to equipment and public relations personnel to handle the tourists. This project with its very signficant national and international interest would be visited, studied and probably participated in by many.

Construction	- 1400
Operation and Maintanence	- 75
Supplier Engineers and Technicians	- 10
DOE and Researchers	- 10
Public Relations	- 5
Total	1500

Direct employment at the conclusion of the demonstration phase would be approximately 75 people. Using a derivative jobs ratio of 3.4, the project would create approximately 255 derivative jobs in the community for a total project employment of 330.

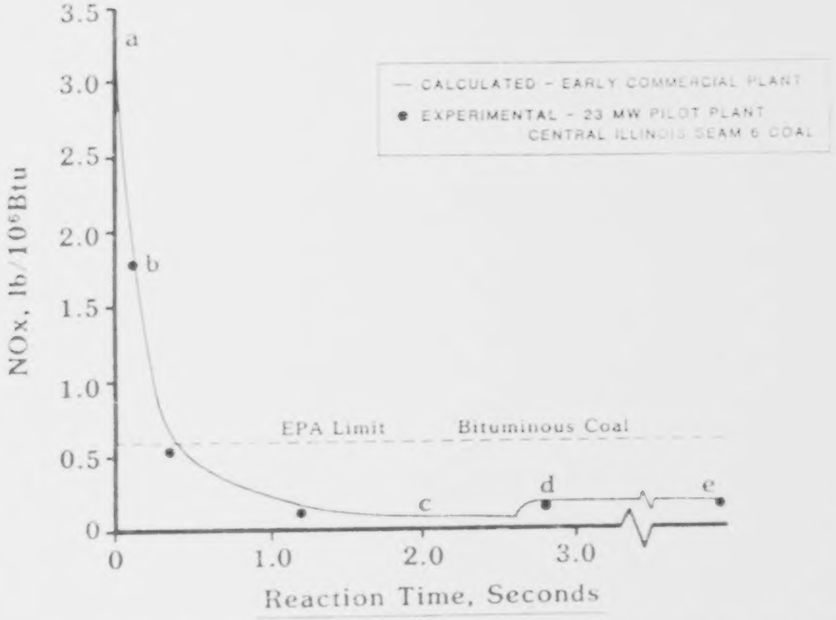
During the May 16th Interior Appropriations hearing on the Emerging Clean Coal Technologies PON, Chairman McClure asked an additional question concerning The Montana Power Company's involvement with MHD and inferred that no actual dollars had been put up by MPC over the years. Even though I wasn't asked that question, I would like to clarify the record.

ANSWER:

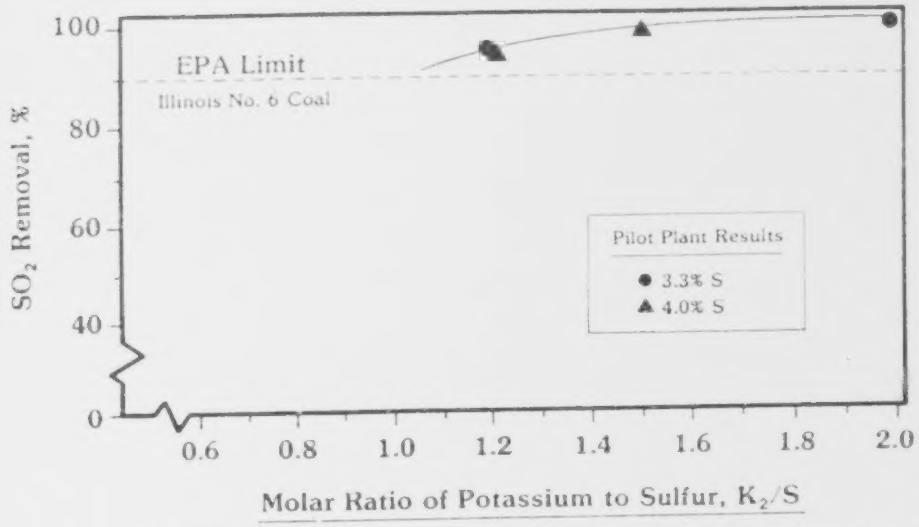
Montana Power Company and MHD - Not only MPC but the U.S. Coal-fired Electric Utility Group has actively supported MHD development. As with all utilities, we have been a part of the Electric Power Research Institute, and, in our regulated industry this represents the major investment which MPC or any utility is allowed to make in the research and development of new, high-risk technology.

To date, EPRI has invested approximately $10.5 million in the MHD technology development. In addition, MPC has invested another $.75 million and other utility companies have contributed approximately $2.3 million. This total $13.5 million which is a substantial investment from the utility sector in any technology development. If one adds these utility sector contributions to the over $67 million in other private sector contributions to MHD development, total private dollars contributed toward MHD development exceeds $80 million over the last decade.

Back to the specific question on MPC, we have offered the Bird Plant to the government in congressional hearings and in the MHD Development Corporation's PON response for a MHD retrofit. We have done this openly and consistently for the last five years. In fact, in 1981, we submitted an unsolicited proposal to the DOE as part of a cost-share package to evaluate using our then planned new coal-fired plant as a hybrid MHD plant. (I might add that we have never even had a response to the unsolicited proposal from DOE.) In the current MHD retrofit offer, the Bird Plant contribution defrays approximately $120 million from the estimate for an MHD retrofit plant versus a stand alone demonstration plant. This contribution is being made up front for this specific MHD project and provides substantial indication of MPC and the private sector's continuing commitment to MHD development. What is needed now is the Federal government's commitment to completion of the base engineering program and a commitment to match industry in the retrofit proof-of-concept. Until the government shows more signs of being a reliable partner in energy technology development, neither MHD or any other energy research and development programs will come to fruition to serve the energy and defense needs of this nation.



EXPERIMENTAL AND CALCULATED NOx IN AN MHD SYSTEM



SULFUR REMOVAL BY POTASSIUM IN AN MHD SYSTEM

STATEMENT OF FATHER WILLIAM L. GEORGE, S.J., SPECIAL ASSISTANT TO THE PRESIDENT OF GEORGETOWN UNIVERSITY

Senator JOHNSTON. Next we are happy to welcome our old friend, Father William George from Georgetown University of basketball fame. We were very disappointed that our team didn't win there in the finals, Father George. Maybe you weren't praying quite hard enough.

Father GEORGE. Well, see I have a theory, Senator Johnston, that because of what we did to Kentucky 2 years ago, all the Kentuckians were praying with the Augustinians and the Jesuits were just outnumbered. [Laughter.]

I am Father William George, special assistant to the president of Georgetown.

I would like to ask the committee if you would deny the deferral that came concerning the funds the committee appropriated last year for the fluidized bed boiler at Georgetown. It has been delayed because of that. We are running it at the lower levels right now, the lower pressurizes. The turbine is ready to go as soon as we can get it repaired and the boiler on line at the high pressure.

We expect with the changes that will even be more efficient in burning coal or well below the emission standards for the District of Columbia which are tighter than the Federal standards right now and we hope to even improve on that. So I would like to ask the committee to consider that.

I have one other thing that I would like to recommend. I also know this committee has some funds for public broadcasting, the Interior does, and being a member of the Board of WETA Channel 26, I would like you to continue that so we can continue to be excellent and serve the educational community.

Thank you, Mr. Chairman.

PREPARED STATEMENT

Senator JOHNSTON. Thank you, Father George. It is always a pleasure to have you here. We very rarely turn down Georgetown. [Laughter.]

Father GEORGE. Thank you.

[The statement follows:]

STATEMENT OF FATHER WILLIAM L. GEORGE

Mr. Chairman and members of the subcommittee, I am Father William L. George, S.J., special assistant to the president of Georgetown University. I thnak you for this opportunity to testify concerning clean coal technology and the interest Georgetown University has in improving the use of coal in meeting our Nation's energy needs.

With the 1983 oil embargo, Georgetown University made the decision to embark on an ambitious energy plan with the objective of reducing oil and gas consumption and insuring an adequate, low-cost energy supply. Implementation of this decision required the university to install a new heating and cooling plant. Because the cheapest and most readily available type of coal was high in sulfur content, a conventional coal burning facility was ruled out since it would fail to meet the Environmental Protection Agency's strict urban emissions standards. An emerging technology known as atmospheric fluidized bed combustion [AFB] was identified as a promising alternative, and with the support of the Congress and the Department of Energy, Georgetown embarked on a demonstration construction project that was completed in 1979. The facility heats and cools GU's complex of 51 buildings, totaling 2.2 million square feet and provides up to 100,000 pounds per hour of saturated steam. It is estimated that Georgetown will save some $300,000 per year by burning coal instead of gas and oil. The demonstration at Georgetown was the only one of eight AFB plants funded by the Congress in fiscal year 1978 that worked. In fact, the Georgetown AFB has been so successful that the Congress designated it a national exemplar project.

Georgetown's Physics Department installed equipment to monitor emissions in 1979. The equipment monitors opacity, S0, 0, $N0_x$, CO and C0. In addition, an intensive monitoring program was conducted by the technology division of GCA Corp., Bedford, MA, sponsored by the Environmental Protection Agency's Industrial Environmental Research Lab at Research Triangle, NC. The continuous emissions monitoring program consisted of two 30-day periods in 1980 and 1982.

Although the emissions performance of the boiler, as determined by the 1980 study, was satisfactory, a number of modifications were made to the Georgetown boiler. These design modifications and several key new operating parameters have resulted in further improved performance.

For example, the average particulate emission rate during the 1982 test period was about 0.005 lbs./million Btu. This is a level of magnitude lower than a recent draft industrial boiler new source performance standard for particulates, which was 0.05 lbs./million Btu. Particulate emissions measured during this program were substantially improved from the earlier experimental program when the average emission factor was 0.07 lbs./million Btu. These improvements are attributable to design modifications made after the 1980 tests. Since the 1982 tests, an improved bag-cleaning system was resulted in further performance improvements and higher load capacity. Average SO, $N0_x$, 0, CO and CO levels have improved as well.

Georgetown currently plans to install a comprehensive management information system on both the cogenerator and the AFB. It is our hope that the data made available will result in further improvements in the use of coal as a technology to meet the energy needs of the United States well into the next century.

On behalf of our president, Rev. Timothy S. Healy, S.J., thank you for the opportunity to testify before this subcommittee.

STATEMENT OF JAMES LONG, VICE PRESIDENT OF MARKETING FOR MEI SYSTEMS

ACCOMPANIED BY DR. SUSAN WOO, PROFESSOR OF AEROSPACE ENGINEERING, UNIVERSITY OF TENNESSEE

Senator JOHNSTON. Next we would like to welcome Mr. James Long of MEI Systems Inc., on flue gas cleanup.

Mr. LONG. Thank you, Senator Johnston.

I will summarize my written testimony. We are indeed honored to testify before this subcommittee. I am James Long, vice president of marketing for MEI Systems, Appleton, WI.

I have with me today Dr. Susan Woo, professor of aerospace engineering at the University of Tennessee.

The University of Tennessee Space Institute operates the Department of Energy coal-fired flow facility near Tallahoma, TN. UTSI has the facility and is in a position to provide the site for our proposed demonstration plant to provide the technology for which I am about to discuss.

Since the United States contains vast reserves of coal, it will remain the fuel of choice for the near and medium term. It should be recognized that flue gas desulfurization systems will remain the most recognized flue gas desulfurization system.

Control concept for coal-fired units during this timeframe. All other control options will have to be compared to flue gas desulfurization in terms of cost, efficiency, availability, and reliability.

FTD is the most widely used SO_2 control concept and can be divided into basically two categories, that is, throwaway systems, which are the most commonly used method in use today, and regenerable.

Our technology to solve the SO_2 emissions problem is a regenerable no-land-fill system. The chemicals used to remove SO_2 from the flue gas are completely regenerated.

The process involves several steps. One of these steps is reduction burning of the spent liquor from scrubbing SO_2 in a chemical regeneration method that has been proven in the pulp and paper industry.

Senator JOHNSTON. Is it reduction burning?

Mr. LONG. Yes, sir.

The reduction burning method will substitute coal particles for the dissolved organics normally found in pulping liquor, and it is this coal introduction that requires physical demonstration to prove the process.

Our proposal to integrate flue gas scrubbing reduction burning and chemical regeneration will demonstrate the technical and economic feasibility of MEI Systems patented Faren process for high efficiency SO_2 removal. We are talking 95 to 97 percent.

The cost of the proposed regenerative system is comparable to that with existing limestone based throwaway systems.

NO_x reduction in this process will be accomplished by staged combustion developed at the University of Tennessee Space Institute. The cost of this regenerable flue gas desulfurization project is approximately $22.5 million; $10.7 million is requested from the Federal Government as the remaining part of cost sharing.

Significant economies occur because of the existing equipment facilities and technical support provided by the University of Tennessee and MEI Systems.

In summary, Senator Johnston, we are asking for a Federal contribution to demonstrate this technology. This is a low-cost request to provide a demonstration to prove the operational aspects of the system. The process we are proposing consists largely of proven technology taken from the pulp and paper industry and hence low risk.

We have a site available at the University of Tennessee. It is operated by qualified personnel from the university and has interface with MEI Systems engineers.

The technology we will demonstrate will assure the United States of a dependable use of coal by means of flue gas desulfurization.

Additionally, the regenerable systems technology has global application. It is generally recognized that eventually throwaway systems need to be replaced with reusable type technology. The system we are proposing meets this objective as well as assuring an economical and efficient means of flue gas desulfurization.

Senator JOHNSTON. Can you use this on any kind of coal burning technology?

Mr. LONG. It is not source specific. Yes; you can.

Senator JOHNSTON. It is very exciting sounding technology. I hope it works out.

Thank you very much, Mr. Long.

STATEMENT OF PHILLIP SIEGEL, PRESIDENT, JEFCO LABORATORIES, INC.

Senator JOHNSTON. Next we want to welcome Mr. Philip Siegel from Jefco Laboratories, Inc.

Mr. SIEGEL. Thank you for the opportunity to address the committee this afternoon. My name is Phillip Siegel, and I am president of JEFCO Laboratories.

Acid rain is a serious problem that continues to haunt the inhabitants in and around the woodlands of the Northeastern States and Canada. The problem is not going to go away itself. While there are those who dispute the conclusion that acid rain is caused by sulfur oxide emissions, no one disputes the reasonableness of reducing sulfur emissions to help curb the problem.

To date all effective solutions offered for desulfurization are costly, too costly in most cases. Wet scrubbing capital costs run between $85 and $125 per kilowatt and dry scrubbing costs run from $40 to $65 a kilowatt and LIMB costs between $30 and $40 per kilowatt to construct.

Jefco Laboratories offers a new technology that will cost no more than $5 to $10 per kilowatt to install. Our combustion catalyst called Glo-Klen has demonstrated sorbent capabilities four to six times that of limestone, utilizing existing ash constituents to absorb sulfur in a reaction accelerated by the catalytic activity of Glo-Klen.

The Glo-Klen material will work and help solve the DESOX dilemma. What Jefco needs is an arena in which to demonstrate Glo-Klen's capabilities in a scaledup test, a test in a full-sized utility boiler.

Jefco is requesting the Federal Government to grant a $6.3 million demonstration of its combustion product. It is expected that the electric utility demonstration will prove Glo-Klen to be an effective DESOX agent and thereby having the potential of reducing acid rain.

The purpose of the test is to show that this product will reduce sulfur oxide emissions by over 50 percent with the addition of about 1 percent product additive to the fuel feed.

In order to implement the proposal, a two-phase program is anticipated. Phase I will utilize a pretest combustor of between 3 to 5 megawatts of the same type as a selected utility boiler. Tests will be conducted with the expected test coals and Glo-Klen.

The results will be used to predict boiler performance and operability as well as set design parameters for Glo-Klen testing in a host utility boiler.

Additional work elements in phase 1 include the design of the additive system, design and procurement of the instrumentation system and baseline boiler efficiency tests.

Phase 2 activities will include construction of the test facilities, test operations, and test results reporting. The complete program is scheduled to take 1 year. The cost has been estimated at $6.3 million in addition to product contributions by Jefco Laboratories.

It is expected that the test results will quantify the ability of Glo-Klen to sequester sulfur oxides and establish optimum additive levels of Glo-Klen for a number of coal species.

There are over 1,000 coal-fired utility boilers in the United States alone. These facilities have a total capacity of over 240,000 megawatts of electric power generation. Not all of these boilers burn high-sulfur coal and probably not all would require DESOX capabilities in order to operate within compliance regulations as they stand today.

Will new legislation require even greater sulfur emission controls? Probably so. The States of Indiana, Illinois, Michigan, and Ohio alone can provide over 74,000 megawatts of electrical power with their coal-fired facilities. If even one-half of this generating capacity requires further desulfurization equipment and the choices were scrubbers versus Glo-Klen, the capital cost savings in these four States alone would be about $3 billion. And regardless of how the cost of this is borne, the taxpayers or the ratepayers would pay the price.

We hope that the Glo-Klen technology will not only save money but will offer still another alternative method for clean air compliance at whatever level the allowable pollutant standard is set in pending environmental legislation.

Senator JOHNSTON. Mr. Siegel, let me interrupt you. I have read your statement. You say out of $6,313,000 in phase 1, that is the total, the $6.3 million?

Mr. SIEGEL. No; that is the total of phase 1 and phase 2.

Senator JOHNSTON. The total of phase 1 and phase 2.

Mr. SIEGEL. At the conclusion of my report, the breakout is in the last paragraph.

Senator JOHNSTON. That is where I am.

Mr. SIEGEL. $2.9 million would be required for phase 1 and the balance making up the $6.3 million would come in phase 2.

Senator JOHNSTON. Well, that is what I am saying; $6.3 million is the total.

Mr. SIEGEL. That is the total.

Senator JOHNSTON. And of that amount the Federal Government would put up all of it, except the $1 million which you have invested?

Mr. SIEGEL. The million and a half. We are a small company, Senator. We have carried this on for 5 years, the last 2 years with a great deal of intensity here in Washington, and we are right now at the end of our financial rope. Without the assistance that we require, it is not likely that we could continue. It would have to be either dropped or turned over to somebody else and we would stand by and applaud them.

What we are asking for is the reversal of the deferral which was approved last year. That first phase would give us the foundation to go on to phase 2 and confirm what our conclusions have been.

Senator JOHNSTON. Well, it is a very exciting sounding technology. I am not technically competent enough to be able to assess how good it is, but it certainly sounds good and what we are seeing here today is a lot of different approaches and exciting sounding technologies. When you think about a total of $750 million, this is not very much considering the stake this country has in the ability to burn coal cleanly. So I hope we will find a way to fund your project.

PREPARED STATEMENT

Thank you very much, Mr. Siegel. Your submitted statement will be inserted in the record.

Mr. SIEGEL. Thank you, sir.

[The statement follows:]

STATEMENT OF PHILLIP SIEGEL

ACID RAIN is a serious problem that continues to haunt the inhabitants in and around the lakes and the woodlands of the Northeastern States and Canada. The problem is not going to go away by itself. While there are those who dispute the conclusion that ACID RAIN is caused by sulfur oxide emissions, no one disputes the reasonableness of reducing sulfur emissions to help curb the problem.

To date all effective solutions offered for desulfurization are costly..... too costly. Wet scrubbing capital costs run between $85 to $125/kilowatt. Dry scrubbing costs run from $40 to $65/kilowatt and LIMB costs between $30 to $40 per kilowatt to construct.

Jefco Laboratories, Inc., offers a new technology that will cost no more than $5 to $10 per kilowatt to install. Jefco's combustion catalyst, Glo-Klen®, has demonstrated sorbent capabilities 4 to 6 times that of limestone, utilizing existing ash constituents to absorb sulfur in a reaction accelerated by the catalytic action of Glo-Klen®.

The Glo-Klen® material will work, and help solve the DESOX dilemma. What Jefco Laboratories needs is an arena in which to demonstrate Glo-Klen's capabilities in a scaled up test...a test in a full sized utility boiler.

Jefco Laboratories is requesting the federal government to fund a 6.3 million dollar demonstration of its combustion product Glo-Klen®. It is expected that the electric utility demonstration will prove Glo-Klen® to be an effective DESOX agent, thereby having the potential for reducing acid rain.

The purpose of the test is to show that this product will reduce sulfur oxide emission by over 50 percent with the addition of about one percent product additive to the fuel feed.

In order to implement the proposal, a two phase program is anticipated.

Phase I will utilize a pretest combustor of between 3-5 MW of the same type as the selected utility boiler. Tests will be conducted with the expected test coal (s) and Glo-Klen®. The results will be used to predict boiler performance and operability as well as set design parameters for Glo-Klen® testing in the host utility boiler.

Additional work elements in Phase I include the design of the Glo-Klen® Additive System, design and procurement of the instrumentation system, and base line boiler efficiency tests.

Phase II activities will include construction of the test facilities, test operations and test results reporting.

The complete program is scheduled to take one year. The cost has been estimated at $6,313,300 in addition to product contributions by Jefco Laboratories.

It is expected that the test results will quantify the ability of Glo-Klen® to sequester sulfur oxides and establish optimum additive levels of Glo-Klen® for a number of coal species.

There are over 1000 coal fired utility boilers in the U.S. alone. These facilities have a total capacity of over 240,000 megawatts of electrical power generation. Not all of these boilers burn high sulfur coal and probably not all would require DESOX capability in order to operate within compliance regulations as they stand today. Will new legislation require even greater sulfur emission control? Probably.

The states of Illinois, Indiana, Michigan and Ohio alone can provide over 74,000 megawatts of electrical power with their coal fired facilities. If even one-half of this generating capacity required further desulfurization equipment and the choices were scrubbers versus Glo-Klen®, the capital cost savings in these four states alone would be about 3 billion dollars. And regardless how the cost of this is borne, the taxpayers or the rate payers would pay the price.

We hope that the Glo-Klen® technology will not only save money but will offer still another alternative method for clean air compliance at whatever level the allowable pollutant standard is set in pending environmental legislation.

Glo-Klen® is the only dry catalytic direct injection process available on the market today for sulfur oxides capture.

There are many additives available for insitu boiler combustion zone use, however, these are chemical in nature and are principally consumed in the combustion zone of the boiler. The principle process technology in this area is LIMB.

Glo-Klen® compares well against LIMB. Capital cost is $5-10/kw as compared to $30-40/kw for LIMB. Operating cost 2-4 mils/kwh as compared to 2-5 mils/kwh for LIMB. Limestone injection reports of slagging, erosion and corrosion while Glo-Klen® reduces deposits, provides improved boiler efficiency and increased boiler life. Boilers can be retrofitted easily to accommodate a Glo-Klen® System. With LIMB they can not. A Glo-Klen® System utilizes the existing ash handling system to dispose of the sulfur waste and no burdensome special handling or disposal methods are required. Within one to two years after the completion of the demonstration program Glo-Klen® can be commercially available and in use.

With such a strong potential for success it might be asked why Jefco Laboratories does not "go it alone" or joint venture the test with a utility company? As a 3 to 4 million dollar a year sales company, Jefco is unable to fund a six million dollar test. Further until new, tougher environmental legislation is passed, the utilities have little incentive to consider Glo-Klen® as an alternative DESOX technology. If the utilities are operating in compliance now, there is no need to investigate a better way to stay in compliance.

The U.S. Congress establishes the environmental standards and hopefully sets these standards within possible attainment limits. By funding our request you will not only be furthering compliance technology but will be improving the potential for even higher attainment levels that can be reached economically. With this two edged sword, coupled with federal funding of the program even the reluctant utility company will embrace the development of this new technology and help promote the use of our vast coal resources.

The program, as proposed, details out a $6,313,300, with Phase I requiring $2.9 million ($1,640,000 for the delivery system, $480,000 in engineering costs, $520,000 for testing, monitoring, and equipment required in the design and base line data study, and $260,000 for supervisor responsibilities associated with the first phase effort) and Phase II requiring $3,413,300 ($450,000 for boiler and consequential damage and liability insurance, $2,062,500 for Glo-Klen® material, $320,800 for engineering, $482,000 in test monitoring, and $98,000 for supervision connected with the segments of the Phase II program).

STATEMENT OF BRUCE GERDING, DIRECTOR OF THE COMBUSTION BUSINESS UNIT AT TRW

Senator JOHNSTON. Next we are happy to welcome Dr. Bruce Gerding with TRW.

Mr. GERDING. Mr. Johnston, I am Bruce Gerding, director of the combustion business unit at TRW. I am pleased to have the opportunity to testify regarding the Federal Government's efforts to assist in the development of emerging clean coal technologies, a subject important to the Nation and to TRW.

TRW has for some time followed the efforts of Congress to enact legislation which would reduce our Nation's dependence on foreign energy while protecting our environment and that of our neighbors.

We believe a continuing fossil energy partnership between the public and private sectors will allow the United States to introduce technologies into the marketplace in a timely manner that will increase significantly the effective and environmentally acceptable utilization of the Nation's abundant supply of coal.

It is with this goal in mind that we appear today in enthusiastic support of the clean coal technology reserve. This congressional initiative and the Department of Energy's follow-on program opportunity notice for emerging clean coal technologies provides the kind of partnership that can make a difference.

TRW submitted three cost-shared proposals on projects we believe make significant contributions toward the clean use of coal, and I would now like to briefly describe these three proposals.

In the utility boiler demonstration retrofit submittal TRW proposed the formation of a Federal/State/private sector consortium to conduct a full-scale multiple-burner retrofit of an oil-fired utility boiler using TRW's slagging combustion technology.

The 4-year program would cost $35 million with 30 to 35 percent of these funds being provided by State governments and the private sector, including TRW. This technology would then be ready for commercialization in the utility market.

Over the past 9 years TRW has spent $25 million of our own funds developing this combustion technology and we are presently midway through the company-sponsored industrial demonstration in one of our own plants in Cleveland, OH.

As part of this development effort TRW builds and currently operates one of the largest combustion test facilities in the world. We have also been fortunate in receiving substantial development support from the Department of Energy in this area.

TRW as part of the Magnetohydrodynamics Development Corp., submitted a proposal to conduct MHD topping cycle retrofit of Montana Power's Bird Plant. You heard about this earlier.

This program is a natural follow-on to the DOE sponsored proof of concept technology effort. TRW's company funded combustion R&D program has proceeded in concert with the Department of Energy in developing the MHD slagging combustor as the two efforts are synergistic.

In our third proposal TRW proposed building and operating a 50-tons-per-day coal beneficiation plant based on our gravimelt technology which employs a molten caustic to remove almost all of the ash and sulfur. Our proposal recognized that proceeding with the demonstration is contingent upon the bench-scale work and proof of concept scale-up. This bench-scale work is currently sponsored by the Department of Energy.

We believe the development of a sound energy policy requires a long-term, consistent management policy. We of the corporate institutions have responded to this congressionally motivated PON with energy programs that fit into our long-term strategic plans and are, in our opinion, worthy of your consideration.

We want to get on with it on a cost-shared basis. With the financial help of the Federal Government, we can bring about a metamorphosis in the sagging coal industry, reduce our purchases of foreign oil and expand the utilization of our abundant natural resource in an environmentally acceptable manner.

Thank you for allowing me to testify before you on this important issue.

Senator JOHNSTON. Thank you very much, Dr. Gerding. Yours, too, is an exciting concept with an exciting company.

Mr. GERDING. Thank you, Senator.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much. We will place your statement in the record at this point.

[The statement follows:]

STATEMENT OF BRUCE GERDING

Mr. Chairman and members of the committee, I am Bruce Gerding, director of the combustion business unit at TRW. I am pleased to have the opportunity to testify regarding the Federal Government's efforts to assist in the development of emerging clean coal technologies, a subject important to the Nation and to TRW.

TRW has, for some time, followed the efforts of Congress to enact legislation which would reduce our Nation's dependence on imported energy while protecting our environment and that of our neighbors. We believe a continuing fossil energy partnership between the public and private sectors will allow the United States to bring technologies to the marketplace in a timely manner which can increase significantly the effective, environmentally acceptable utilization of the Nation's abundant supply of coal. It is with this goal in mind that we appear today in enthusiastic support of the clean coal technology reserve [CCTR]. This congressional initiative and the Department of Energy's [DOE's] follow-on program opportunity notice [PON] for emerging clean coal technologies provides the kind of partnership that can make a difference.

TRW submitted three cost-shared proposals on projects we believe can make significant contributions toward the clean use of coal. I would like to briefly describe those proposals.

In the utility boiler demonstration retrofit submittal, TRW proposed the formation of a Federal/State/private sector consortium to conduct a full-scale multiple-burner retrofit of an oil-fired utility boiler using TRW's slagging combustion technology. The program would cost $35 million, with 30–35 percent of the funds being provided by State governments and industrial firms. Over the past 9 years, TRW has spent $25 million developing its combustion technology, and we are presently midway through an industrial scale demonstration in one of our own plants. As part of this development effort, TRW built and currently operates one of the largest combustion test facilities in the world. We have also received substantial development support from DOE.

TRW, as part of the Magnetohydrodynamics [MHD] Development Corp., submitted a proposal to conduct an MHD topping cycle retrofit in Montana Power's Frank E. Bird Plant. This program is a natural follow-on to the DOE-sponsored proof of concept technology effort. TRW's company-funded combustion R&D has proceeded in concert with the DOE, in the development of the MHD slagging combustor, as the two are synergistic.

In our third proposal, TRW proposed to build and operate a 50 tons/day coal beneficiation plant based on TRW's gravimelt technology, which uses a molten caustic to extract almost all of the sulfur and ash. Our proposal recognized that proceeding to demonstration scale is contingent upon ongoing bench-scale work and proof of concept scale-up. This bench-scale work is currently being sponsored by DOE.

We believe the development of a sound energy policy requires a long-term, consistent management policy. We of the corporate institutions have responded to this congressionally motivated PON with energy programs that fit into our long-term strategic plans and are, in our opinion, worthy of your consideration.

We want to get on with it on a cost-shared basis. With the financial help of the Government, we can bring about a metamorphosis in the sagging coal industry, reduce our purchases of foreign oil and expand the utilization of our most abundant natural resource in an environmentally acceptable manner.

Thank you for allowing me to discuss this important issue with you. I would be pleased to answer any questions you may have.

STATEMENT OF LEON GREEN, JR., VICE PRESIDENT, CLEAN COAL COALITION, INC.

Senator JOHNSTON. Next we want to welcome Dr. Leon Green with the Clean Coal Coalition.

Mr. GREEN. Thank you, Mr. Chairman.

On behalf of its members the Clean Coal Coalition, Inc., is pleased to submit this testimony on the clean coal technology program.

The coalition is an advocacy group incorporated in August 1983 to promote technologies for burning coal cleanly. We wish to commend the Department of Energy and its congressional supporters for initiating the clean coal technology program and hope that funding to implement it at least partially will be forthcoming during the upcoming appropriations process despite a difficult budgetary environment.

The coalition also feels obligated to offer some critical judgments regarding funding priority for selected coal technologies among those under consideration by DOE and Congress in this program.

Not surprisingly, we recommend top priority for advanced coal preparation and cleaning, but only for techniques employing physical or biological methods. Chemical methods have been adequately investigated and found unsatisfactory because of high cost and the deleterious effect upon the combustion properties of the clean coal product.

The high temperatures involved drive off the volatile components of the coal which are desirable for maintenance of stable combustion. By contrast physical and biological process for coal cleaning are conducted at ambient or near ambient temperatures in aqueous media and can thus be easily incorporated into systems for the production of deeply cleaned coal-water slurry fuels.

Coal-water fuels were not included in the DOE program announcement, but are being aggressively developed by the private sector and will soon be a commercial reality.

Of particular promise is the microbial process under development by one of the coalition's member companies, the Atlantic Research Corp., of Virginia. The ARC process has been successfully scaled up from the laboratory stage to the 1,000 pound per day pilot stage, and further scale up to the 5 ton per hour demonstration stage is being planned in cooperation with the Tennessee Valley Authority's Camp Breckinridge coal cleaning plant in western Kentucky.

Slurry technology also facilitates the use of furnace limestone injection for sulfur dioxide control, since it obviates problems associated with handling and feeding a dry bulk powder.

Unlike the LIMB procedures, such injections should take place at a location downstream of the primary combustion zone where the gas temperature is low enough to permit an effective sulfur capture and retention. Evaporation of the water content can provide an additional, beneficial, if small, degree of temperature reduction toward this end.

Dry limestone injection methods, on the other hand, have progressed well through the pilot scale demonstration stage to the point of full-scale testing in utility boilers.

Another coalition member, the Pennsylvania Electric Co., has been a leader in this line of investigation at its Homer City, PA, generating station in conjunction with its nationally recognized efforts in advanced physical coal cleaning.

Further testing of limestone injection techniques, both dry and wet, deserves continuing support by the Congress. However, there is a physical limit to the amount of solids, ash plus limestone, which can be passed through a boiler. With some high sulfur high ash coals the amount of limestone which can be injected may not be sufficient to affect the degree of sulfur capture required.

Conformance with SO_2 emissions limitations in such cases can be accomplished by replacing some of the coal with an energy equivalent amount of natural gas to lower SO_2 levels in the furnace while maintaining full boiler output.

Although not a new technology, such beneficial use of natural gas for clean Btu augmentation needs and deserves to be recognized as legitimate under both the Fuel Use Act and Clean Air Act. Congress should act to provide such formal recognition.

In comparison to these primary candidates for development support, atmospheric fluidized bed combustors rank at the bottom end of the priority scale. AFB combustors of a size appropriate to the electric utility market are commercially available today.

A third coalition member, the Pyropower Corp., of California, has pioneered U.S. commercial acceptance of the highly efficient circulating FBC technology originally developed in Finland and proven commercially in several countries around the world.

As noted by various speakers, including some today, the new utility sized plant for incremental additions of capacity is of the order of 100 megawatts electric.

Circulating fluidized bed systems of this size are now approaching completion. One is in Germany and one is starting construction in Colorado. No Federal Government R&D support is needed for this recently emerged commercial technology, and it would be inappropriate to use public revenues to redevelop it.

PREPARED STATEMENT

On behalf of our membership, we hope that these recommendations will assist Congress in formulating its support for the clean coal technology program.

Thank you.

[The statement follows:]

STATEMENT OF LEON GREEN, JR.

On behalf of its members, the Clean Coal Coalition, Inc. ("Coalition") is pleased to submit this testimony on the FY 1986 appropriations for the clean coal technology program. The Coalition is an advocacy group comprised of members with various viewpoints drawn from the coal producer/processor, electric and gas utility, equipment manufacturing, engineer/-construction and consulting communities. It has established advisory and coordination relationships with the major industrial, trade and labor associations directly concerned with coal use issues in Washington, D.C.

The Coalition wishes to commend the Department of Energy ("DOE") and its Congressional supporters for initiating the Clean Coal Technology Program and hopes that funding to implement it at least partially will be forthcoming during the upcoming 1986 appropriations process despite a difficult budgetary environment.

Coal Preparation and Cleaning

The Coalition also feels obligated to offer some critical judgments and guidance regarding funding priority for selected coal technologies among those under consideration by DOE and the Congress in this program. Not surprisingly, we recommend top priority for advanced coal preparation and cleaning, but only for techniques employing physical or biological methods. Chemical methods have been adequately investigated and found unsatisfactory because of high cost and the deleterious effect upon the combustion properties of the cleaned coal product. The high temperatures involved drive off the volatile components of the coal which are desirable for maintenance of stable combustion. The ultimate example of chemically cleaned coal is provided by the SRC-1 process in which the solid product is very clean indeed, but a relatively poor fuel.

By contrast, physical and biological processes for coal cleaning are conducted at ambient or near-ambient temperature in aqueous media, and can thus be easily incorporated into systems for the production of deeply cleaned coal-water "slurry" fuels. Coal-water fuels were not included in the DOE program announcement, but are being aggressively developed by the private sector and will soon be a commercial reality.

Of particular promise is the microbial process under development by one of the Coalition's member companies, the Atlantic Research Corporation of Virginia. The ARC process has been successfully scaled up from the laboratory stage to the 1000 lb/day pilot stage, and further scale-up to the 5 ton/hr (product coal) demonstration stage is being planned in cooperation with the Tennessee Valley Authority's Camp Breckinridge coal cleaning plant in western Kentucky.

Limestone Injection

Slurry technology also facilitates the use of furnace limestone injection for sulfur dioxide control, since it obviates problems associated with handling and feeding a dry, bulk power. Unlike the LIMB procedure, such injection should take place at a location downstream of the primary combustion zone where the gas temperature is low enough to permit effective sulfur capture and retention. Evaporation of the water content can provide an additional, beneficial (if small) degree of temperature reduction in achievement of this end. Furthermore, the rate-limiting limestone calcination step is catalyzed by the presence of water vapor.

Dry limestone injection methods, on the other hand, have progressed well through the pilot-scale demonstration stage to the point of full-scale testing in utility boilers. Another Coalition member, Penelec, has been a leader in this line of investigation at its Homer City, Pennsylvania generating station in conjunction with its nationally-recognized efforts in advanced physical coal cleaning. Further testing of limestone injection techniques, both dry and wet, deserves continuing support by the Congress.

Beneficial Use of Natural Gas

However, there is a physical limit to the amount of solids (ash plus limestone) which can be passed through a boiler, and with some high-sulfur, high-ash coals the amount of limestone which can be injected may not be sufficient to effect the degree of sulfur capture required. Conformance with SO_2 emissions limitations in such cases can be accomplished by replacing some of the coal with an energy -equivalent amount of natural gas to lower SO_2 levels in the furnace while maintaining full boiler output. Although not a new technology, such beneficial use of natural gas for clean Btu augmentation needs and deserves to be recognized as legitimate under both the Fuel Use Act and Clean Air Act. Congress should act to provide such formal recognition.

Atmospheric Fluidized-Bed Combustors

In comparison to these primary candidates for development support, fluidized-bed combustors rank at the bottom end of the priority scale. Atmospheric fluidized-bed combustors of a size appropriate to the electric utility market are commercially available. A third Coalition member, the Pyropower Corporation of California, has pioneered U.S. commercial acceptance of highly efficient "circulating" FBC technology originally developed in Finland and proven commercially in several countries around the world.

As noted in the attached reprint from Public Utilities Fortnightly, the new "utility size" plant is about 100 MWe (see, Attachment 1). Circulating fluidized-bed systems of this size are now approaching completion or under contract for construction in the United States and abroad. No federal government R & D support is needed for this recently "emerged" commercial technology, and it would be inappropriate to include it in this program.

Conclusion

On behalf of our membership, we hope that these recommendations and guidance will assist Congress in formulating its support of the Clean Coal Technology Program for FY 1986.

Alternatives for Effective Emissions Control

By LEON GREEN, JR.

Alternative technologies commercially available for control of sulfur dioxide emissions at coal-fired boilers are reviewed in the following article against the background of the political conflicts created by acid rain concerns. The writer finds that flue gas desulfurization, the option favored by most recent legislative proposals, is the least desirable because of excessive cost and a parasitic character. Of the available commercial technologies, he finds that physical coal cleaning is the only negative-cost alternative because the cost of cleaning is more than offset by increased performance and availability of the power plant. Thus it should be the first measure employed in any least-cost control strategy. The alternatives of fuel switching or blending are intermediate in cost. The writer concludes that legislative proposals addressing the acid rain issue should provide appropriate financial incentives for industry — including electric utilities — to invest voluntarily in productive facilities which minimize any need for scrubbing. The article is adapted from a talk delivered at the First Annual Pittsburgh Coal Technology Conference in September, 1984.

THE acid rain issue is uniquely divisive. In involves not only a complex scientific problem but an equally complex political problem as well [1].* No other issue has created so many crosscutting conflicts among the states and their congressional representatives, within both major political parties, within the administration itself, and within industry. These divisions are largely of mundane economic origin — i.e., who is hurt by versus who benefits from the legislation pending in Congress — but are exacerbated by a nonrational, romantic factor of power not to be underestimated.

Legitimate concerns about preserving the quality of our natural environment have been exploited by the philosophical children of Rousseau to permit enactment of laws of the land phrased in the superlative degree: best available control technology. What is BACT? Does "best" mean "most cost effective"?

Politicians vying to legislate ever larger reductions in annual emissions of sulfur dioxide (SO_2) (8 or 10 or 12 million tons below the estimated 1980 level) to be mandated upon U. S. industry have been sold on "Why not the best?" as defined by a highly effective if improbable combination of advocacy groups with different but complementary self-interests. The environmental committees in both houses of Congress have been stampeded by a so-called "unholy alliance" of environmental purists with opportunistic scrubber suppliers and high-sulfur coal producers into discounting the cost factor in the cost-benefit balance in order to meet a perceived emergency need. So have "the people," affirms pollster Louis Harris, citing the opinion of his purportedly enlightened population sample (94 per cent of which believes that the principal source of acid rain is the chemical industry) as favoring the "damn the cost" approach.

Thus, the legislative sword dangling over the head of U. S. industry is the prospect of massive, mandatory program of scrubber installations costing billions of dollars in capital expenditures alone. The most significant differences among the bills now pending concern how to finance such a program by special taxes to be levied upon different sectors of the general polity. (The ongoing operational costs presumably would be borne by the ratepayers of the utilities affected.) Alternative means of emission control receive secondary mention at best.

Proponents of acid rain legislation have convinced an articulate following that the acid rain is a serious problem and that we should do something about it promptly. Opponents of such legislation argue with equal conviction that the cost of implementing the present proposals for substantial reductions in SO_2 emissions are unacceptably high and would grossly discriminate against certain midwestern and southern states. It is ironic indeed that both positions are correct, but the extremes of action urged by each group (none versus spastic scrubbing) are non sequiturs. There is, however, a rational middle course.

Alternative Control Technologies

Volcanoes excepted, coal-burning electric utilities and, to a lesser degree, large industrial coal users account for the bulk of point-source SO_2 emissions. To effect any significant reduction in these emissions by 1995, a control technology must be available for immediate deployment by such users. This criterion requires the technology to have been commercially proven in large-scale operations. Three basic control measures meet this test. In order of cost-effectiveness they are:

- Precombustion coal cleaning
- Fuel switching or blending
- Flue gas desulfurization

Each of these measures has its champions. As listed in Exhibit 1 in order of their present level of industrial and political support, the sequence is reversed. The following discussion will address them in that order.

EXHIBIT 1

COMPARATIVE CHARACTERISTICS OF PROPOSED SULFUR DIOXIDE CONTROL MEASURES

Control Action And Associated Advocacy Groups	*Relative Cost*	*Cost Borne by*
None pending further research (NCA, EEI, ABES, AMC)	Low	Government programs
Flue gas desulfurization (Scrubber constructors, environmental lobbies)	High	Special taxation *(of whom?)*
Switch to low-sulfur coal (AAR, ACE)	Indeterminate	Utility ratepayers, coal miners
Wider practice of coal cleaning* (CCC)	Negative over long term	Productive industry investment

*Augmented by waste burning using commercial CFBC technology, select use of natural gas, and introduction of deeply cleaned coal-water fuels.

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*Numbers in brackets refer to list of references at the end of this article.

AAR — Association of American Railroads
ABES — Alliance for Balanced Environmental Solutions
ACE — Alliance for Clean Energy
AMC — American Mining Congress
CCC — Clean Coal Coalition
EEI — Edison Electric Institute
NCA — National Coal Association

Flue Gas Desulfurization

Scrubbers should be phased out of broad application as quickly as possible, not mandated by legislation [2]. Of the commercially available emission control measures, the scrubber option is by far the most costly. Flue gas desulfurization (FGD) advocates would justify this high cost on the grounds that a wet scrubber plant is potentially capable of removing up to 90 per cent of the SO_2 from the stack gas when operating in "well-tuned" condition. Off-peak performance and, especially, plant availability are less impressive.

Scrubber advocates point with pride to an increase in average FGD plant availability from 53 per cent in 1978 to 85 per cent in 1981. Such a level may be tolerable to an electric utility which, by virtue of the connectivity of its transmission grid, can purchase power from elsewhere (if at a premium price) when one of its generating stations goes down. The heavy process industries, on the other hand, enjoy no such safety net. When a plant cogenerating both in-plant power and process heat goes down, so does the entire process train. For this reason process industries usually demand at least 95 per cent plant availability, a level which precludes scrubbers.

While the loss of available generating capacity is a large but uncertain cost of FGD to electric utilities, the high capital and operational costs of such installations are better known. The capital cost of FGD on a new coal-fired power plant is exceeded only by the cost of the boiler itself (retrofits are still more costly). Maintenance cost for the FGD system is two to 20 times that for the rest of the plant [2].

Although FGD costs are plant-specific and vary widely, a study by the Pennsylvania Electric Company [3] showed that, on average, the capital cost of an FGD plant is $230 per kilowatt, or more than ten times the cost of a midlevel physical coal-cleaning plant (to be discussed later) at $20 per kilowatt. On average, the FGD plant costs ten mills per kilowatt-hour annually to own and operate compared to three mills per kilowatt-hour for the coal-cleaning plant. As will be noted later, however, these comparisons are of apples and oranges and actually understate the true differences in cost because the FGD plant is parasitic in nature and degrades the capacity and availability of the power plant, whereas the cleaning operation is a productive investment which increases the efficiency, capacity, and availability of the power plant and thus lowers the cost of generating electricity. This saving is achieved even without recovering the coal energy lost during cleaning, about which more later.

For the above reasons it has been judged by the Electric Power Research Institute that, although scrubbers promise large percentage reductions in SO_2 emissions, "they represent an expensive and inefficient approach which does not resolve the perceived conflict between coal and the environment. They only serve to transfer it from one portion of the environment to another while also freezing technology in today's plants" [2].

Fuel Switching or Blending

An examination of the job losses inherent in fuel switching clearly shows this solution to be an economic disaster [4]. This statement should not be dismissed as hyperbole. It reflects the real and legitimate concern of the United Mine Workers of America regarding the probable consequences of utilities in the eastern U. S. switching from use of locally produced high-sulfur coal to low-sulfur coal produced in the western states or in southern Appalachia. Such coal switching has been touted by low-sulfur producers and the railroads serving them as the "least-cost" option for utilities seeking to lower their emissions of sulfur dioxide despite the already premium delivered price of such coal, its vulnerability to further increases in rail transportation rates, and the penalties for breaking long-term supply contracts with local producers.

This spurious claim has been challenged not only by the UMWA but by high-sulfur coal producers. While the high social costs of disemploying miners with its associated ripple effect upon the local economy are difficult to quantify, the cost of closing a coal mine is not. According to the Consolidation Coal Company the cost of physically sealing a mine, removing surface structures, and reclaiming the land, estimated at approximately $5 per annual ton of capacity, is just the beginning.

Considering such major ongoing costs as pensions, federal and state black lung payments, and workers' compensation, cost for a prematurely closed high-sulfur coal mine typically could approximate $35 million. Including the loss of capital investment and recoverable coal reserves, and the loss of closing one million tons of production capacity, the cost would be approximately $100 million [5]. The aggregate potential impact of such closings upon the coal industry would be of the order of $10 billion.

Actually, blending of low-sulfur western coal with local high-sulfur coal has long been practiced by some midwestern utilities. Because of the high costs of transporting low Btu western coals and the power plant modifications or derating required for their use, however, low-sulfur coal for utilities in the eastern United States would come from southern Appalachia. Unfortunately, the amount of such compliance coal in that region is limited and much of it has already been committed [2]. The extent of any further coal switching will, therefore vary considerably based upon legislative requirements and incentives provided.

Another form of fuel blending, however, can avoid the economic dislocations and political conflicts caused by coal switching and can be physically accomplished much more easily with little capital expenditure. This approach is the augmentation of pulverized coal with natural gas, a procedure which has been termed the "select use" of gas.

In an effort to repeal or obtain exemption from the restrictions on use of natural gas under large boilers enacted by Congress in the Powerplant and Industrial Fuel Use Act of 1978, the American Gas Association has been advocating the select use approach by such means as congressional testimony [6], internal and contracted studies [7, 8], organization of conferences [9, 10], and sponsorship of a monograph on the subject [11]. However informative, these efforts seem to have had little impact. The most likely reason for this limited response is that the original select-use concept involved cofiring of gas and high-sulfur coal and thus simply required use of too much gas for good fuel economy.

As discussed below, however, conventional physical cleaning of the coal prior to combustion can remove much of the pyritic sulfur content and dramatically reduce the amount of gas augmentation required to produce a compliance fuel. In particular, deeply cleaned coal-water mixture (CWM) fuels are especially amenable to augmentation by select gas use since they can easily be cofired in the same burner [12].

Coal cleaning has now been recognized by the AGA as a natural complement to select use [13].

Coal Cleaning and Waste Burning

Physical coal cleaning is the least-cost method of reducing sulfur emissions from the combustion of coal

[14]. This judgement by the Environmental Protection Agency has been supported by an eminent White House peer review panel [15, 16]. Nevertheless, advocates of "Why not the best?" disparage the potential of physical coal cleaning for reducing sulfur emissions, since it removes only pyritic sulfur.

To evaluate this limitation properly it must be understood that sulfur removal is not the reason most coal is cleaned today. The original motivation for preparing coal was economic: to lower the cost of its transportation by removing inert mineral matter. The washed coal also exhibits improved quality and uniformity in both size and Btu content, thus easing downstream fuel operations at the power plant. More recently recognized is the fact that removing the ash-forming mineral matter reduces slagging and fouling of the boiler tubes, thus increasing boiler performance and availability, and thereby *lowers* the cost of producing steam and electricity [17]. A coal-cleaning facility thus represents a productive investment, not a cost.

General acceptance of the fact that "The cheapest electricity is not of necessity produced from the cheapest coal" [17] has been slow, due in large part to institutional barriers inhibiting investment in preparation facilities [18]. Nevertheless, all utilities are now seeking to increase the capacity and extend the operating life of existing plants, and are balancing the above-mentioned economic benefits from using cleaned coal against the cost of the cleaning operation itself. The assessment that "The critical economic point in the coal energy system is the wash plant" [17] is not an overstatement.

Coal cleaning or preparation methods in commercial use today are physical operations based upon differences in density or in surface properties between coal and its mineral impurities. Most of these methods are density-based operations in which separation of maceral from mineral matter is effected by gravitational and inertial body forces acting upon the particles in aqueous media. The degree to which the impurities can be removed is a strong function of the degree of size reduction or comminution employed. The more finely the coal is crushed, the more mineral matter is released as discrete particles which can be removed by physical methods, but at increased cost in terms of greater grinding power requirements and loss of coal to waste.

The limiting cost factor in physical coal cleaning is the loss to waste plus the loss in effective heating value of the cleaned coal (especially the fines) due to increased moisture content resulting from the "washing" operation. A third, smaller factor but one now receiving increased attention is disposal of the cleaning refuse which, although not hazardous in the Resource Conservation and Recovery Act sense, must be disposed of in an environmentally acceptable manner and monitored to control acidic drainage and leaching of soluble heavy metal compounds.

The fact that physical separation methods are effective in removing pyritic sulfur only is less of a limitation in reducing SO_2 emissions that might first appear. The U. S. coals most amenable to physical cleaning are thus those of high pyrite content found in the northern Appalachian and Illinois basin regions. Since these are exactly the regions in which SO_2 emissions are the highest, they are the ones where physical cleaning can make its greatest contribution to emission control. They are also generally adjacent to and upwind of the Adirondack and New England regions most severely impacted by acid precipitation and where any reduction in acidity as a result of coal cleaning upwind should be most readily detectable.

The above combination of circumstances should be regarded as fortuitous, since it permits a significant reduction of the most important SO_2 emissions to be realized without additional scrubbing and its high attendant cost. Currently, only about one-third the sulfur removal potential of coal cleaning is being achieved in northern Appalachia and about one-half achieved in the Illinois basin [2].

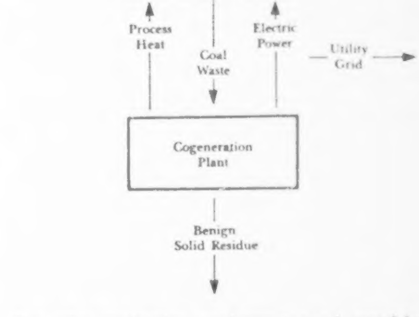
The degree of cleaning practiced is, of course, limited by the cost factors mentioned above: loss of coal and Btu value in washing, high comminution power requirements, and careful disposal of the "semi-hazardous" cleaning refuse. It is thus important to emphasize that these costs can be eliminated by burning the waste in sulfur-capturing fluidized-bed boilers to cogenerate electricity for powering the preparation plant and for sale to the utility grid, process heat for drying the washed coal fines, and a benign solid combustion residue with commercial value [19]. Total energy recovery by such a combination of operations, indicated schematically in Exhibit 2, can transform the preparation plant from an operational cost sink to a source of profit.

Special Combustion Requirements

The solid combustion residue deserves special attention not only because its quantity is large but because it represents the culmination of a process whereby a noxious waste is converted into a useful product. Whether accumulated in waste ponds, culm banks, or "gob" piles, or disposed of by more careful burial in land-fill operations, raw coal refuse constitutes not only a potential source of acid drainage but a repository of minerals containing water soluble compounds of trace elements such as heavy metals, leaching of which must be contained. Elimination of these potential hazards is essential if the combustion residue is to find very large-scale applications such as agriculture and soil conditioning. This stringent environmental condition imposes a special requirement upon the waste combustion process: it must consume the residual coal virtually completely and fully oxidize the trace metals to a state of negligibly low solubility [19]. Once immobilized, such elements cannot enter the food chain.

EXHIBIT 2

SCHEMATIC DIAGRAM OF A FLUID-BED COGENERATION PLANT OPERATING ON PREPARATION PLANT WASTE



Two other combustion requirements are imposed by the nature of the coal tailings. Because of the high fines content of such refuse the waste combustor must be able to burn fines efficiently. Because of the high-sulfur content, a large surface area of sulfur-capturing sorbent material (limestone or dolomite) is required to assure adequate control of SO_2 emissions.

The requirements mentioned above, plus that of ready commercial availability in high-capacity units, constrain the choice of combustion technology applicable for waste burning to the entrained flow or "circulating fluid bed" combustor (CFBC) which has come to dominate the heavy industrial market [19].** It is important to distinguish the CFBC system from the obsolescent "bubbling" FBC design which the U. S. Department of Energy has been trying to promote. By virtue of the high specific surface of its fine sorbent particles (the order of 100 to 200 microns diameter versus two or three millimeters for the other systems) and its high (99+ per cent) demonstrated combustion efficiency, the CFBC alone meets the requirements stated above.

The New Utility Profile

"The electric utility industry is entering a new era . . . The first characteristic of the new period will be the relative absence of construction of new generating capacity" [20]. In so saying, the president of the Virginia Electric and Power Company was referring to large, centralized capacity. Utilities with need for additional capacity, he explained, will want to add it "in relatively small increments and with short lead times" in order to avoid high capital requirements and the risk of state regulatory commissions denying inclusion of cost of construction work in progress in their rate bases.

Such utilities will be interested in technologies that allow "economical capacity additions in 100 to 200 megawatt bites," will explore opportunities for "significant cogeneration," and will "establish joint ventures, pursue innovative financing, and ownership arrangements and . . . gain some access to the financial advantages granted to small power producers" [20].

More recently the same need for "a new emphasis in planning by electric utilities" has been noted by the chairman of the Federal Energy Regulatory Commission considering the "long lead times required to construct new (central) generating facilities, the enormous cost of constructing new (central) capacity, the increasing legal, financial, and regulatory risks, and the uncertainty of forecasting demand" [21]. Utility planning, he urged, "should strive for flexibility" and "examine supply alternatives that can be added with short lead times. These may include increased reliance on cogeneration and small power production" [21].

The above remarks by authoritative spokesmen confirm a trend toward smaller plant sizes perceived earlier [22]. According to a respected economic consultant, "Economies of scale have come to an abrupt end" [23]. It is thus a fortunate coincidence that the lower limit of plant size now contemplated by utility planners (the order of 100 megawatts-electric) is the same as the upper limit on the size of circulating FBC installations now commercially available. Because of their characteristically high unit availability, waste-burning CFBC plants can be base-loaded, thus improving overall system reliability. Distributed power generation (or cogeneration) by multiple plants of this type [24] could permit retirement or transfer to reserve status of a few of the oldest and "dirtiest" central-station generators, thus lowering system sulfur emissions as well as minimizing capital outlays.

Despite such opportunities, a utility with adequate or excess system capacity may feel that to exercise the distributed generation option is not economically justified even though such a measure could eliminate the loss to waste of the coal preparation plants serving its system. However, if "wheeling" the power from the small (co)generators to customers in an adjacent system is permitted [25], the option would become attractive. This important subject, is beyond the scope of the present discussion and should be explored by the legislative, regulatory, and financial communities.

Imminent Commercial Developments

Although this article has considered only commercially proven control technologies available for immediate deployment, there is another application of coal cleaning which is sufficiently close to commercial fruition that it should be considered "ready" for practical planning purposes. This is the emergence of the new coal-water mixture (CWM) fuel technology mentioned only briefly earlier. The development of very deeply cleaned CWM fuels as substitutes for residual fuel oil in firing utility and large industrial boilers is highly competitive, fast-paced, well-financed (major oil companies are now involved), and international in scope. A newly emerging "coal refining" industry will become a prime customer for the clean coal fines now produced in modern preparation plants but generally unwanted commercially.

In the process of reducing their ash content to the order of one per cent, preparation of CWM fuels also removes virtually all the pyritic sulfur, leaving only the organic component. In the case of readily washable coals, such as those from northern Appalachia, CWM preparation can in some cases produce compliance fuel, in others a fuel close enough to compliance (1.2 pounds of SO_2 per million Btu) to be easily brought into full compliance by blending with a low-sulfur CWM or, as mentioned earlier, by select use of natural gas [12].

Furthermore, the fine particle size distribution employed by CWM fuels facilitates an economical means of removing organic sulfur as well. Chemical methods for removing chemically bound organic sulfur have been investigated and found wanting. Not only are the high-temperature processes involved too costly for commercial application, but they drive off the volatile components of the coal which are desirable for stable combustion.

Much more promising is a microbial process which proceeds in aqueous media at ambient temperature. The action of the genetically engineered microorganism involved converts the organic sulfur compounds to water soluble products which can be removed from the coal particles by standard washing procedures. The Btu value and the volatile content of the coal are not significantly altered by the microbial treatment [26]. If commercialization of this process is successful, it will open up the prospect for full utilization of our vast resources of high-sulfur midwestern coal without involving costly scrubbers and their attendant sludge disposal problems.

Unlike the control technologies discussed earlier, the microbial process for removing organic sulfur is not yet a commercial reality and is at best several years from commercialization. Nevertheless, should this happy development come to pass, coal cleaning will constitute not only the first step toward control of sulfur emissions but the conclusive step as well. This possible eventuality provides yet another reason why hasty congressional legislation mandating flue gas scrubbing should be avoided.

Conclusion

The foregoing discussion has summarized the political stalemate and conflicts created by the acid rain issue and the possibility of precipitate congressional legislation mandating arbitrary reductions in SO_2 emissions in language which effectively dictates flue gas desulfuriza-

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**As measured by the number of its installations operating, under construction or under contract around the world, the leading CFBC supplier is the Hans Ahlstrom Company of Finland, the largest of whose operating units is a 22-megawatt-electric cogenerator in Kauttua, Finland. A 25-megawatt-electric cogenerator built by Lurgi Chemie and Huttentechnik of the Federal Republic of Germany is operating in Luenen, Federal Republic of Germany and a 95-megawatt-electric utility power plant is under construction in Duisberg, Federal Republic of Germany. A variation of the more complex Lurgi design (which uses a heat exchanger external to the main circulation loop) developed by Battelle Columbus Laboratories has been licensed to the Struthers Wells Corporation, Foster Wheeler Power Systems, Ltd., and the Riley Stoker Company. A new, still unproven design by Stone & Webster has been licensed to Babcock Power, Ltd., and to the Foster Wheeler Boiler Corporation.

tion as the favored emission control technology to be employed. A review of the alternative technologies now commercially available reveals that the FGD option is by far the most costly and least desirable. Switching to low-sulfur coal would require lower capital expenditure by the utilities but would involve higher operating costs, would impose high mine-closing costs upon the high-sulfur coal producers, and would introduce even higher, if hard-to-quantify, social costs by disemployment of coal miners.

Of the available control alternatives, only conventional physical coal cleaning is a negative cost option in which the cost of cleaning is more than offset by increased power plant performance and availability. Even without exploiting the residual energy on the cleaning waste, coal cleaning is thus the first measure to employ in any least-cost control strategy. Recovery of the loss to waste by combustion in a sulfur-capturing fluid bed boiler can make this option even more attractive. In the very near future the commercial availability of deeply cleaned coal-water fuels can displace high-sulfur residual fuel oil and facilitate the select use of natural gas.

It is concluded that the hastily conceived legislation now pending in Congress is unnecessary and should be replaced because of its adverse economic impact. The question before Congress should be not how to raise tax revenues to finance a massive, mandatory program of parasitic scrubber installations but how to provide appropriate financial incentives for industry to invest voluntarily in productive facilities which can minimize the need for scrubbing.

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Senator JOHNSTON. Thank you very much, Dr. Green.

Who are the members of the Clean Coal Coalition?

Mr. GREEN. We have currently five members. I mentioned three of them. Two others are Indiana Gas Co., and the Bird Machine Co., which makes high-speed centrifuges for dewatering fine coal.

Senator JOHNSTON. By the way, in your statement there about the beneficial use of natural gas you say that it ought to be recognized as legitimate under the Fuel Use Act. I have a proposal in now, or I am ready to put it in, repealing the Fuel Use Act altogether. I don't think that natural gas ought to be the fuel of choice for electric generation, but I think there are many uses of natural gas, both in connection with coal as well as for peaking, which are very appropriate. But in the final analysis, that ought to be an economic decision which electric utilities ought to make.

Senator Byrd, did you have any questions?

Senator BYRD. No; and I thank you, Mr. Chairman.

Senator JOHNSTON. Thank you very much, Dr. Green.

STATEMENT OF ROBERT L. LOUGHHEAD, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER OF WEIRTON STEEL CORP.

Senator JOHNSTON. Next we will hear from Mr. R. Loughhead from Weirton Steel Corp.

Mr. LOUGHHEAD. Gentlemen, my name is Robert Loughhead. I am chairman of the board and chief executive officer of Weirton Steel Corp.

We are the seventh largest domestic steel producer in the country. We are a 100-percent employee-owned company, the largest in the world. We employ 8,200 people and we have a shipping capacity of about 2.8 million tons.

We think that our proposal of ironmaking by emerging clean coal technology submitted to you by Weirton is an ideal project for funding consideration.

A word of explanation about that process. It basically replaces coke ovens and blast furnace facilities which are both costly and environmentally hazardous. It is essentially a two-staged coal based ironmaking process, with the first stage operating as an oxygen blown fluid bed coal gasifier generating heat used to melt iron bearing and flux material producing molten iron and byproduct fuel gas. The pilot plant successes clearly indicate that we should now move toward commercial development.

An explanation of the process. It uses nonmetallurgical coal as a primary fuel supply. It does not require exotic materials. It can use available domestic ore and limestone. It generates gas byproducts usable for downstream operations. It is energy efficient. It essentially eliminates all toxic air emissions. It reduces particular emission by 36 percent from current practices and it eliminates the need for very prohibitive investments in new coke ovens and blast furnace facilities, none of which, in our judgment will ever likely again occur in the United States.

And why the KR process? We think it is a way to prevent further deterioration of two major industries in this country, coal and steel. It supports the Federal guidelines for environmental control standards related to the steel industry. It also eliminates totally the need for dependency on foreign raw materials. It is an idea investment for clean coal technology in an industry which is different from just power generation. There is no comparison of the jobs picture in steel facilities versus power generation.

And why the Weirton KR proposal? It is much less expensive because ancillary facilities are in place. The total cost of this project is estimated at $126.6 million. We are prepared to cost share almost 50 percent of that. Largely the difference is due to our having installed facilities and site which brings some $18 million to the project.

We will bring research and engineering talent to the project to the extent of some $3 million. We have done lots of work over the years with such things as sulfur removal and we have worked with direct iron reduction over the years. We have experienced operating people in place bringing another $4.8 million to the project, and we will provide raw materials, supplies, utilities and operating costs for a first-year start-up to the tune of some $35.5 million.

Senator JOHNSTON. Do I understand that the State of West Virginia may also cost share?

Mr. LOUGHHEAD. There is a letter that is on the way or you should have, a letter from Governor Moore, and West Virginia expects to provide significant financial support for this project.

Senator JOHNSTON. If you are going to take one-half, would that come out of the other half or come out of your half if West Virginia cost shares?

Mr. LOUGHHEAD. At this point we would still request the $65 million Federal funding. However, we are flexible. Our interest is in getting this project done. We think it is the most meaningful test of the process. It would not be a lab. It would be a real test in an energy efficient operation creating jobs in a production facility. It would be located in one of the Nation's most severely depressed coal areas and it would benefit from the stimulation of the coal industry, more jobs and economic growth.

However, due to the tremendous costs required, we cannot fund it all. We think that the technology of this project is a unique way to keep American coal and American steel. We also fully expect that at least two other major integrated steel companies will work with us on this project. We are not permitted at this time to identify them, but we fully expect that they will work us.

For all those reasons, we think the right place for the KR process is at the employee-owned steel company in Weirton. We know the need exists and we think the time is now.

And, incidentally, I would like to point out that PORF is neutral on this matter. They have no greater or less interest in ours than in any other proposals for this project. I do not have a letter to that extent, but I expect to get it. They are neutral.

I will be very happy to answer any questions that you gentlemen have.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Loughhead. We will place your entire statement in the record at this point.

[The statement follows:]

STATEMENT OF ROBERT L. LOUGHHEAD

The ironmaking by emerging clean coal technology (hereinafter the KR process) proposal submitted by Weirton Steel Corp., is an ideal project for funding consideration.

We can reasonably expect that a perfected KR process can replace the current coking facilities (coke plants) and ironmaking facilities (blast furnaces). Coal and iron ore will be placed directly into a technologically advanced KR process facility to be converted to iron. Thus, the intermediary processes, conversion of coal to coke in a coke plant and conversion of coke and other materials to iron in a blast furnace, with all the attendant costs and environmental impact will no longer be necessary. The success of the pilot plant tests of the KR process demands moving forward to the commercial plant development. It is clearly in the best interest of the United States, our coal industry, our steel industry, and their employees that the plant be built here and not in a foreign country.

Why should the KR process take priority over other worthy projects for funding? The answer is that the KR process is the best investment for the Federal Government. It is the best investment because the KR process will:

One, assist two beleaguered American industries—coal and steel;

Two, eliminate one of the most environmentally hazardous facilities in American industry—the coke plant;

Three, solve the growing balance of trade problem of imported coke made from foreign coal; and

Four, offer diversity of investment for the Federal Government rather than all investments going to utility and boiler projects.

Both the American steel industry and coal industry are fraught with problems. Imports control 28 percent of the domestic steel market. The capital cost of equipment and the stringent environmental regulations make investment in the traditional ironmaking process extremely expensive. Imported coke, slabs, and finished products all have foreign coal as a base element in their production. Technological progress such as the KR process must be made in the United States or else the eventual demise of both industries is inevitable.

The process of converting coal to coke, long has been recognized as an environmentally hazardous operation. The Federal Government reinforced this view in 1975 by establishing coke oven standards to address the carcinogen problem. The KR process, by replacing coke ovens and blast furnaces, would reduce particulate emissions by 36 percent, and more importantly, would essentially eliminate toxic air emissions.

The American steel industry in 1983 consumed 33 million tons of coal to make coke. Unfortunately, the industry in 1983 was forced to purchase over 4 million tons of foreign coke. The 1983 figures are the last recorded figures although we know purchases of foreign coke increased in 1984 and 1985. The capital costs and environmental standards, associated with building a new coke plant in the United States are prohibitive. We project that by 1990 there will be only 20 million annual tons of operating coke plant capacity in our country. The KR process is the way to keep American coal in American steel.

Any investing entity will diversify its investments if possible. The KR process offers just such an element of diversification to the Federal Government. The vast majority of submitted proposals relate directly to the production of electricity from coal. All grant moneys should not be expended on the one area of electrical generation. An investment in the Weirton Steel proposal is money invested for clean coal usage in a different industry providing another important market for domestic coal.

The right place for the KR process is at the employee-owned Weirton Steel Corp.

The dedicated employee owners who will be assigned to the project from the executive and engineering segment have 318 years of experience, plant operating, maintenance and shops 203 years of experience, and the direct salary and hourly work force have literally centuries of experience. All of that experience is in the areas of cokemaking, ironmaking, and steelmaking.

Weirton Steel Corp., already has in place all necessary ancillary facilities and will use the iron from the KR process in producing a full range of steel products. At Weirton, the KR process will be a real world, energy efficient study in an integrated steel mill producing products for a demanding, wide range of customers.

Weirton Steel estimates the total cost of the project (installed facilities plus 1 year of operation) to be $126.6 million. We are requesting Federal funding of $65 million.

Weirton Steel, together with the State of West Virginia and area coal producers, is ready to make a real investment in the KR process. Our facilities commitment will be $18.3 million, engineering and research valued at $3 million, and our employee operating forces will be $4.8 million per year.

Weirton will also support the project by supplying all raw materials, utilities, and miscellaneous items required to operate the facility valued at $35.5 million per year. Weirton will make use of the iron produced (at a cost advantage of $6.8 million) to make a full range of flat rolled steel products.

Due to the capital funds required to rebuild our current facilities we cannot afford the total expense of this project. Only with Federal funding under the clean coal technology program can Weirton Steel pursue the all important KR process technology.

Senator JOHNSTON. I have no questions.

Senator Byrd, do you have any questions?

Senator BYRD. Thank you.

First, I would want to compliment Mr. Loughhead, the workers and management at Weirton Steel and the community, the people in the community as well. They have all worked together and made sacrifices to make this Weirton Steel a very successful ESOP.

I understand that the Weirton Steel Co., has made a profit for each of the last five quarters; is that right?

Mr. LOUGHHEAD. That is correct. As a matter of fact, we have made a profit in each of the months that we have been in existence since we started and we expect to make a profit in each of the remaining months of this year.

Senator BYRD. I frequently talk with our chairman's colleague, Senator Long, who was very instrumental in developing this ESOP idea and who came to Weirton on one or more occasions and spoke with the people in Weirton.

I must say that he continues to follow this particular ESOP with a great deal of interest, and it seems to me that this particular ESOP is setting an excellent example for other similar situations which may have developed or may develop.

The company I believe employed, what would you say earlier on, 12,000 or 13,000?

Mr. LOUGHHEAD. At one time there were as many as 13,000 employees, yes, sir.

Senator BYRD. And now you have between 8,000 and 9,000 now, do you?

Mr. LOUGHHEAD. Yes; we do.

Senator BYRD. Well, I just want to compliment you on the record and through you to the people whom I earlier mentioned.

Now what would you say were some of the environmental constraints on the production of steel at your Weirton facility and how would the KR process minimize some of the environmental concerns?

Mr. LOUGHHEAD. Well, first of all, our coke producing facilities were shut down largely as a result of environmental considerations. There really has not been any satisfactory technology developed to make coke ovens environmentally acceptable. Also, it is costing more and more funds in order to keep blast furnaces acceptable environmentally. So those are the two major constraints, Senator.

Senator BYRD. Do you anticipate that the process developed by the Korf Engineering Co., to which you addressed your remarks a little while ago will reduce your cost to produce a ton of steel, and how much would you estimate those cost savings to be at this time?

Mr. LOUGHHEAD. We do indeed. We have done a lot of work on that and we think that we could reduce the cost of hot metal by as much as 25 to 30 percent per ton.

Senator BYRD. Mr. Chairman, I will certainly want us to do whatever we can do in this instance because here is a very successful operation going, and, as I say, the people in management and in the labor force and otherwise in the community have made substantial sacrifices to make this ESOP work.

As soon as the letter is received from Governor Moore, it will be placed in the record.

[The information follows:]

LETTER FROM ARCH A. MOORE, JR., GOVERNOR, STATE OF WEST VIRGINIA

June 10, 1985

The Honorable Robert C. Byrd
Minority Leader
United States Senate
311 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Byrd:

I appreciate your support of Clean Coal Technology Reserve funding and particularly urge your support for the West Virginia proposals which have been submitted for consideration.

As you know, Congress has authorized $750 million to advance the commercialization of new technologies which will increase our ability to further utilize abundant coal reserves in a more environmentally acceptable manner. The private sector's interest in the program has been overwhelming and a commitment of federal participation is warranted. The development of clean coal technologies has important environmental, economic, and national security benefits for the nation, and I am pleased to support the Congress in this important effort.

I have reviewed the clean coal technology projects proposed for West Virginia, and I am particularly impressed with two of the undertakings.

Foster Wheeler Energy Corporation's proposal to construct a pressurized fluidized bed coal gasifier to produce electric power and steam for the West Virginia University campuses and Medical Center in Morgantown, West Virginia, presents an opportunity to demonstrate the emission free gasification of high sulfur coal. The West Virginia University Energy Park will meet the objectives of the Clean Coal Technology Program by demonstrating the commercial scale reliability of a system with direct and immediate application in the industrial market and in the electric utility industry for incremental additions in generating capacity.

The benefits of this project are even further enhanced by the fact that West Virginia University has been designated by the National Science Foundation as the National Center for University/Industrial Research on Fluidization. The project will be located in close proximity to the Department of Energy's Morgantown Energy Technology Center (METC) and will serve as a demonstration showcase for those visiting the Center, and present METC the opportunity to collect and analyze the environmental and gasifier system performance data collected at the facility.

The State of West Virginia is prepared to make a significant contribution to this project in land, rights-of-way, and cost sharing. In addition, Foster Wheeler intends to participate in the cost of designing and installing the facility, and is prepared to take an equity position in this project.

The other proposal for which I am requesting funding is Weirton Steel Corporation's project to construct an iron production facility at their Weirton plant which will utilize a new direct reduction process developed in West Germany. This process eliminates the need for coke in the production of steel by using coal as a feedstock. This innovation substantially reduces the capital required to bring modern production capacity online and bypasses the health and environmental problems associated with coke ovens. The successful commercial demonstration of this technology will help revitalize the domestic steel industry, increase the demand for coal, and contribute to a more acceptable balance of trade. Weirton Steel is willing to commit a significant investment to the development of this technology and is seeking federal assistance.

As you know, much of West Virginia's economy depends on a growing and prosperous coal industry. In the last several years, however, hundreds of our mines have closed and thousands of our miners have been unemployed. The economic disruption has been most severe in the State's southern metallurgical region. The economic problems associated with the metallurgical coal industry and the high sulfur coal industry are not restricted to only West Virginia. Congress, by funding the Foster Wheeler's fluidized bed gasifier and Weirton Steel's direct iron reduction process, has the opportunity to make significant inroads to solving these major national problems.

The State of West Virginia supports these two projects, and is prepared to make the necessary commitments to proceed with their development.

I have sent a letter to the members of the Senate Appropriations Committee and the House Appropriations Subcommittee on Interior informing them of my strong interest in the Clean Coal Technology Program and these two projects in particular.

Sincerely,

Arch A. Moore, Jr.
Governor

Senator BYRD. I note that you are speaking of a total cost of something like $126 million; is that right?

Mr. LOUGHHEAD. That is correct.

Senator BYRD. And you are requesting Federal funding of $65 million?

Mr. LOUGHHEAD. Yes, sir.

Senator BYRD. Now you say that your facilities commitment will be $18.3 million, engineering and research valued at $3 million and the employee operating forces will be $4.8 million a year?

Mr. LOUGHHEAD. That is correct.

Senator BYRD. So that would mean that about $26 million—well, it says "Weirton will also support the project by supplying all raw material, utilities, and miscellaneous items required to operate the facility valued at $35.5 million a year."

Mr. LOUGHHEAD. That is correct.

Senator BYRD. And Weirton will make use of the iron produced at a cost advantage of $6.8 million to make a full range of flat rolled steel products.

What was your total volume last year, the first year under ESOP?

Mr. LOUGHHEAD. We shipped a little over 2 million tons and had sales of just over $1 billion and we made about $30 a ton which came to just over $60 million.

Senator BYRD. You said $1 million or $1 billion?

Mr. LOUGHHEAD. Sales were $1 billion. I am sorry if I said $1 million. Sales were $1 billion and shipments were 2 million tons with a profit of $60 million.

Senator BYRD. How does that compare with the previous year before the ESOP?

Mr. LOUGHHEAD. Well, it is difficult to compare, but the loss was up in the $50 million range at least, although it is difficult to make the comparison because it is a different company. But it was a continual loss month after month and probably ended up in the range of $50 to $60 million as a division of National Steel.

Senator BYRD. Fifty to sixty million dollars?

Mr. LOUGHHEAD. Yes.

Senator BYRD. Well keep on doing the good work you are doing.

Thank you, Mr. Chairman.

Senator JOHNSTON. Thank you, Senator Byrd.

And thank you, Mr. Loughhead.

What State did you say this was in? [Laughter.]

Mr. LOUGHHEAD. There only is one State, West Virginia. Thank you. [Laughter.]

STATEMENT OF KEITH K. KAPPMEYER, VICE PRESIDENT OF TECHNOLOGY, STEEL AND RELATED RESOURCES, UNITED STATES STEEL CORP.

Senator JOHNSTON. Next we are happy to welcome Mr. Keith K. Kappmeyer from the United States Steel Corp.

Mr. KAPPMEYER. Senator Johnston and Senator Byrd, my name is Keith Kappmeyer. I am vice president of technology for United States Steel, and one of my responsibilities is the research and development on new methods for making our products.

I would like to amplify on the promising coal based technology described by the previous speaker and urge Congress to support the development of this technology. Steel is made from iron, which in turn is produced from iron ore that is reduced and smelted in a blast furnace with coke and fluxes.

The front end of an integrated steel plant, which is comprised of coke ovens and blast furnaces, requires substantial capital and demands difficult and expensive pollution control measures.

Because about 60 percent of the ultimate product cost is incurred through liquid steel, a major improvement in the front end of a steel plant could produce a major change in world competition.

Emerging technology that offers promise to replace both coke ovens and blast furnaces with a single unit that uses conventional iron bearing materials, coal and oxygen is, as has been described, the KR process.

Recent tests using domestic raw materials in a 200-ton-per-day KR pilot plant have demonstrated that this process could, in fact, produce blast furnace quality iron. The success of this small scale test leads us to believe that the KR process could be important in the future of the steel business.

The KR process was pioneered by Korf Engineering, a subsidiary of Voest-Alpine of Austria. It is a clean coal technology that produces molten iron and fuel gas. Coal is fed into a melter-gasifier where it is oxidized to form a reducing gas. A reducing gas is clean and piped to a reduction shaft. Pellets or natural ore are fed into the top of the reduction shaft and reduced to sponge iron, which is then melted in the meter gasifier, the molten iron and steel flow to the bottom and are tapped much in the same fashion as a blast furnace.

The KR process, if proven commercially viable by large-scale demonstration plant trials, offers several potential benefits. It would use coal directly and thereby eliminating coke oven batteries. It would operate economically on a smaller scale than a blast furnace. It would produce a hot fuel gas that could be used by nearby industry and, finally, it would produce less air and water pollution than blast furnace and coke oven combinations.

Given the potential benefits of the KR process, I believe industry and Government together should demonstrate the viability of this technology by commercial scale-up.

Accordingly, we submitted to the Department of Energy on February 15 for consideration on the clean coal technology reserve fund an informational proposal to construct and operate a 300,000-ton-per-year KR demonstration plant.

Joining us in the informational proposal are the State of Minnesota and Korf Engineering. Furthermore, we plan to offer participation to other steel companies when the necessary funds for construction become available.

To successfully prove this process, the demonstration plant would have to operate on a continuous basis with a wide variety of domestic ores and coals. Such operation is necessary to establish scale-up factors and to demonstrate operability over an extended period of time.

The risks and costs inherent in this endeavor are high and too great to be borne by the private sector alone. Therefore, we believe that the continued development of this process can only proceed with Government support.

Our informational proposal to DOE can be summarized as follows. Construct a 300,000-ton-per-year KR demonstration plant for about $105 million and run demonstration trials with domestic raw materials for an additional $30 million.

The State of Minnesota and local sources will provide about $26 million; we are requesting the Federal Government through the clean coal reserve fund to provide $94.8 million over a 5-year period, and private industry will pay the remainder.

The project expenses are detailed in my written testimony.

If the demonstration plant proves successful, we would propose that the plant be owned by a private corporation and produce founder grade merchant iron at a profit. Federal funds used for the plant construction would be repaid at a rate of $1.75 for each dollar over a reasonable period of time.

In all, the State, local, and private share of funding is about 30 percent of the total capital cost of the project. United States Steel, the State of Minnesota, and Korf Engineering are continuing to develop this project at the moment. We are working on preliminary designs, plant integration, and environmental analysis.

Thus far several million dollars have been spent in support of this development. If money becomes available from the clean coal technology reserve fund, we would be ready to undertake the final design and construction.

Thank you for this opportunity to present our thoughts and for your attention.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Kappmeyer. Your entire prepared statement will be placed in the record.

[The statement follows:]

STATEMENT OF KEITH K. KAPPMEYER

My name is Keith Kappmeyer. I am the Vice President of Technology for U. S. Steel and one of my responsibilities is research and development on new methods for making our products. What we do in Research sets the course for the company's future and to a great extent determines if we will be competitive in a world market.

Today I would like to describe a promising new coal-based ironmaking technology and urge Congress to support the development of this technology through the Clean Coal Technology Reserve Fund. Steel is made from iron, which in turn is produced from iron ore that is reduced and smelted in a blast furnace with coke and fluxes. The "front end" of an integrated steel plant, which is comprised of coke ovens and blast furnaces, requires substantial capital and demands difficult and expensive pollution control measures. Because about 60 percent of the ultimate product cost is incurred by the time liquid steel is produced, a major change in the front end of the steel plant could cause a revolution in the nature of world competition.

One emerging technology offers promise to replace both coke ovens and blast furnaces with a single unit that uses conventional iron-bearing feed materials, coal and oxygen—it is called the KR process. Recent tests using domestic raw materials in the 200-tonne-per-day KR pilot plant were successful and demonstrated that the KR process could produce blast-furnace quality metal. The success of this small-scale test leads us to believe that the KR process might have a future in the steel industry.

You might ask, what is the KR process and what promise does it offer? The process was developed by Korf Engineering, a wholly owned subsidiary of Voest-Alpine of Austria. The KR process, is a clean coal technology that produces hot molten iron and a by-product fuel gas. Coal is fed into a melter-gasifier, where it is oxidized to form a medium-Btu gas. The hot gas is piped from the melter-gasifier, cleaned, and conveyed to a reduction shaft. Pellets or natural ore are fed to the top of the reduction shaft. Through a series of chemical reactions with the hot reducing gas, the ore is reduced to "sponge iron" which is subsequently melted in the melter-gasifier. Molten iron and slag flow to the bottom and separate into layers.

The KR process, if proven commercially viable by a larger-scale demonstration plant, offers several potential benefits:

- o It would use coal directly from a preparation plant eliminating coke-oven batteries.
- o It may operate economically on a much smaller scale than a blast furnace.
- o It would produce a hot fuel gas that could be used by nearby industry.
- o Finally, it would produce less air and water pollution than the blast-furnace/coke-oven combination.

Given these potential benefits of the KR process, I believe the United States—industry and government together—should demonstrate the viability of this technology by a commercial scale up. Accordingly, we submitted to the Department of Energy on February 15, 1985, for consideration under Clean Coal Technology Reserve Fund, an informational proposal to construct and operate a 300,000-tonne-per-year KR demonstration plant. Joining us in the informational proposal are the State of

Minnesota and Korf Engineering. We will offer participation to other American companies if the necessary funds for construction become available.

To successfully prove the KR process, the demonstration plant would have to operate on a continuous basis with a wide variety of domestic raw materials. Such operation is necessary to establish scale-up factors and to demonstrate operability over an extended period of time. The risk inherent in this endeavor is high and too great to be borne by the private sector alone. U. S. Steel has spent many millions of dollars in developing new processes - not all of which reached commercial reality. Therefore, we believe that the continued development of this process can only proceed with government support.

Our informational proposal to the Department of Energy can be summarized as follows: Construction of the 300,000-ton-per-year KR demonstration plant will cost about $105 million. Demonstration trials with domestic raw materials will cost about $30 million. The total cost of the project will be about $135 million. The State of Minnesota will provide about $20 million and local sources about $6 million. The federal government, through the Clean Coal Technology Reserve Fund, is being asked to contribute $94.8 million. Private industry will pay the remainder. Total project expenses are detailed below in Table I.

Table I

		Funding ($ million)	
Federal Fiscal Year	Task	State, Local, Private	Federal
1986	Preliminary design, procurement	5.0	7.0
1987	Construction	15.0	23.8
1988	Construction	20.6	25.0
1989	Construction, demonstration	-	20.0
1990	Demonstration	-	19.0
TOTAL		40.6	94.8

If the demonstration proves successful, we would propose that the plant be owned by a private corporation and produce foundry-grade iron at a profit. Federal Funds used for construction will be repaid at a rate of $1.75 for each $1.00 over a reasonable period of time.

In all, the state, local, and private share of funding is about 30 percent of the total capital cost of the project. U. S. Steel, the State of Minnesota, and Korf Engineering are continuing to develop the project at this moment, working on preliminary design, plant integration, and environmental analysis. Thus far, several million dollars have been spent in support of this development.

When money becomes available from the Clean Coal Technology Reserve Fund, we will be ready to undertake final design and construction.

Senator Johnston. Weirton says they will do the job for $65 million and it will take you about $90 million.

Mr. Kappmeyer. $94.8 million, sir.

Senator Johnston. I understand that they have already got a lot invested that you don't have any invested. Do you have anything superior on the Weirton process, or is it any different from what yours would be?

Mr. Kappmeyer. They are one and the same process basically. I think I would disagree in at least part with the previous speaker on the basis that I do not feel that the process is as perfected as you would believe from the previous testimony. There is much yet to be done. There is still high risk involved in this, extremely high risk.

I also believe that undertaking this with Federal moneys we would have an obligation to look at this process over a wide range of raw materials, not only our raw materials, but anybody else who had raw materials that was interested in long-term use of this process.

We have had experience in the past with developing processes and found that they worked on our materials and failed miserably when they were taken out of the site specific case. So those two issues I think I would take some exception to.

Senator Johnston. Thank you very much, Mr. Kappmeyer.

Senator Byrd, do you have any questions?

Senator Byrd. No; I have none. Thank you.

STATEMENT OF JOSEPH P. CIARIMBOLI, PRESIDENT, PENNSYLVANIA COKE TECHNOLOGY, INC.

Senator Johnston. Next we want to welcome Mr. Joseph Ciarimboli with Pennsylvania Coke Technologies, Inc.

Mr. Ciarimboli. Thank you, Mr. Chairman and Senator Byrd.

I am Joe Ciarimboli, president of Pennsylvania Coke Technology, developers of a new coke making technology for some 13 years.

Our group includes Westinghouse Electric Corp., Algin National Industries, and University of Pittsburgh affiliate, Bituminous Coal Research Laboratories. We thank you for this opportunity to testify in behalf of the metallurgical coal and coke needs of this country.

We wish to also congratulate this committee, Mr. Chairman and Senator Byrd, for the foresight in recognizing the needs of supporting emerging technologies to clean coal research development and commercialization programs.

The statement of our testimony has been provided and I would like to highlight only our comments.

Our coke energy program proposes the means by which the faltering domestic coke making industry can be effectively salvaged with the resultant saving and/or creation of an ultimate 10,000 jobs in metallurgical coal mining and coke making while also economically and cleanly generating over 400 megawatts of new power output.

The project consists of installing and operating a demonstration coke energy production facility capable of the clean carbonization of 300,000 tons per year of West Virginia metallurgical coal while cogenerating 12 to 14 megawatts of electricity.

The technology of the PACTI coke production system is complete and ready for immediate construction. As we have outlined in our statement for the record, the innovative power generation and desulfurization system technology designed by Westinghouse Electric requires a demonstration with a commercial-sized facility.

The Westinghouse system provides SO_2 removal from the hot combustion gases by a novel absorption technique. Also the proprietary Westinghouse design removes NO_x and particulates in a manner in which will provide cleaner stack gases than that required by EPA's new source performance standard.

I would like to take a moment to briefly address the serious problems of the domestic coke market, as two of the previous speakers have mentioned.

Coal coking is a little publicized aspect of coal utilization. Yet more than 70 million tons of metallurgical coal are mined in the United States each year. The domestic steel industry facing serious financial difficulties on many fronts is now closing many of its remaining coke making facilities.

These closings are primarily a result of the industry's inability to comply with environmental standards with its overaged facilities. This closing trend will accelerate as EPA enacts its mandated air quality standards in late 1985.

In a September 1984 Federal Register EPA formally identified coke oven emissions as a hazardous air pollution and announced its intent to enforce tighter restrictions by September 1985.

These developments have created a rapidly escalating coke importing business in this country which is known to possess the world's best coking coals. The United States imported 35,000 tons of coke in 1983, over 580,000 tons in 1984, and we suspect over 1 million tons by year end 1985. About 60 percent of the imported coke comes from Japan and the usage of U.S. coals in Japanese made coke is diminishing giving way primarily to Communist country produced metallurgical coals.

According to the major industry studies, such as a comprehensive study by Payne Weber entitled "World Coke Dynamics" in November 1983, the U.S. domestic coke shortage will be 5 million tons per year within the next 1 to 2 years and may escalate to about 10 million tons per year shortages during the 1990's.

Unless there is an environmentally sound and efficient coke energy technology, the U.S. steel industry will be importing coke to meet its requirements. Coke prices are expected to escalate from 50 to 60 percent in near term. Prior coke shortages, as in 1974 and 1978, demonstrated price escalations greater than 150 percent.

If this proposal were immediately funded and supported, this Nation would be in a position to produce low-priced coke and energy to the steel industry domestically and internationally. The energy byproducts that would be developed in this demonstration facility create these realities.

I thank you very much.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Ciarimboli. Your statement will be placed in the record at this point.

[The statement follows:]

STATEMENT OF JOSEPH P. CIARIMBOLI

It is clear from the large number of responses to the Clean Coal Technology program that careful evaluation will be required to determine which of these competing proposals are most worthy of your support.

There are, however, instances in the various proposals where unique circumstances -- application, technology, market, status -- justify special consideration by the sub-committee. Pennsylvania Coke Technology, I believe, offers such a project. This report briefly describes our project and specifically ask your including it in a category of projects deserving of immediate consideration and support.

The Pennsylvania Coke Technology Project is

- unique in its application to coke production along with power generation. The coke industry now has environmental, economic and market problems which require new technology for solutions. This project offers the appropriate solutions.
- unique in its technology -- non-recovery coke ovens combined with special heat utilization/power generation equipment and gas cleaning apparatus. The overall plant configuration is a novel combination of technological advances.
- unique in its market situation. The coke industry supplies a basic raw material to the steel plants and foundries. These industries are now having economic problems. The domestic coke market will experience significant and crucial capacity shortages which have already begun. Either new, clean coke production facilities or coke importation will be required. Coke is being imported at a rapidly incrasing rate to the US from Japan. It is urgent to establish now a more economic, cleaner coke production technology for the US.

From all these reasons I ask that the members of the sub-committee not only enthusiastically support the overall Clean Coal Technology Program, but that they designate the PACTI Coke/Power Project for special attention and immediate funding.

Coke/Power Project

PACTI along with its collaborators -- Westinghouse Electric, ENI, and the University of Pittsburgh affiliate, Bituminous Coal Research Laboratory -- propose the detailed design, procurement and installation, and test and operation of a commercial scale clean coke/power plant. This plant will be located in West Virginia -- either in the vicinity of Weirton, Beckley, or Bluefield, W.V.

The plant will use some 300,000 tons/yr of West Virginia coal and produce some 200,000 ton/yr of coke for use by Weirton Steel (or other steel plant customer) and co-generate 12-14 Mw of power. The coking technology employed by the plant will eliminate fugitive particulate and noxious hydrocarbon emissions from charging, coking, pushing, and quenching. Novel gas cleaning technology will permit the stack gases to meet or better New Source Performance Standards for SO_2, NO_x, and particulates.

The estimated cost of the plant is $60 million; and the cost of the initial start up and testing, $16 million. The design and construction period is 2 years; the initial start up and testing is also 2 years. The plant will operate profitably to produce competitively coke at $100/ton and power at 4-5 cents/kwhr. The US government is asked to cost share $11 million out of the $76 million total project cost, to guarantee the commercial loans (to protect against the loss of the steel company market), and to guarantee the coke price (to protect against foreign competition). It is the intention of PACTI to repay the government cost share from profits earned by the coke/power plant after its initial start up. After successful operation of the 200,000 ton/yr coke/power unit the plant will be increased in capacity with private capital to 1,000,000 ton/yr by the addition of coke oven modules and of enlarged heat recovery/power generation unit.

Benefits

Both economic and environmental benefits will result from US government support of the PACTI Coke/Power Plant Project. The economic benefits are

(1) Reduction in the cost of domestic coke below existing costs. Coke is a significant fuel cost item in steelmaking at about $50-60/ton hot metal it represents about 20% of total hot metal costs.

(2) Revival of the domestic metallurgical coal mining.

(3) Creation of about 500 permanent jobs initially. The full scale coke/energy production battery facility will create more than 1200 meaningful jobs.

(4) Establishment of a domestic coke industry which can compete costwise in the international market to exploit the anticipated worldwide coke shortage.

(5) Development of economical electric power cogeneration system which will satisfy stringent air quality standards and which will improve the economics of coke making. The environmental benefits are

(1) Reduction in the particulate emissions from cokemaking to levels less than 0.4 lb. per ton of coke. This value is less than one-fourth the existing pollution levels.

(2) Reduction of water discharge from the quench of the product coke.

(3) Establishment of cokemaking process which is free of carcinogenic emissions. In the PACTI process, all emission gases are incinerated at temperatures which destroy both the volatile hydrocarbons and combustible particulates.

Coke Market Review

Coal coking is a little publicized aspect of coal utilization. More than 40 million tons of metallurgical coal are mined in the US each year, however, to produce coke for domestic steel making. But the domestic steel industry, facing serious financial difficulties on many fronts, is now closing many of the remaining cokemaking facilities. These closings are primarily a result of the industry's inability to comply with environmental standards with its over age facilities. The closing trend will accelerate when EPA enacts its mandated air quality standards in late 1985. In the September 1984 Federal Register, EPA formally identified coke oven emissions as a hazardous air pollutant and announced its intent to enforce tighter restrictions by September, 1985.

These developments have created a rapidly escalating coke importing business in this country which is known to possess the world's best cokemaking coals. The USA imported 35,000 tons of coke in 1983; and imported 582,000 tons in 1985. More than 60 percent of the imported coke came from Japan. Some of the imported Japanese coke was produced from US coals which were exported to Japan. However, the US coal content of Japanese coke today is minor. Japan imports its coals from other sources, such as Canada, Australia, Russia and China.

According to major industry studies such as the comprehensive study by Paine Webber Mitchell Hutchins entitled "World Coke Dynamics" in November 1983, the US domestic coke shortage will be about 5 million tons/year within the next 1-2 years and may escalate to about 10 million tons/year shortage by the 1990's.

Unless there is an environmentally sound and efficient coke/energy technology, the US steel industry will be importing coke to meet its requirements. Coke prices can be expected to escalate from 50-60% by 1990. Prior coke shortages (in 1974 and 1978, for example) demonstrated price escalation greater than 150%. If this PACTI/Westinghouse proposal is immediately funded and supported, however, this nation will be in a position to domestically provide competitively priced coke and energy to the steel industry. There is no question but that the timing of this technology commercialization is crucial today. For this reason we ask that the government support be immediate -- and that hopefully the project is deserving of a "fast" track action.

Technology Review

The technology package of the PACTI coke production system is complete and ready for immediate construction.

The PACTI cokemaking system operates at a pressure slightly below that of the surroundings so that air flows in rather than emissions leaking out. The gases and emissions from the charging, coking, pushing, and quenching processes are all collected and incinerated -- burned with excess air. The heat produced is recovered and used to raise steam for power generation. The Westinghouse system provides SO_2 removal from the hot combustion gases by a novel absorption in limestone/dolomite. The Westinghouse system removes NO_x by staged air addition, and separates out particulates by a combination of inertial and filter apparatus. The stack gases are cleaner than required by EPA's New Source Performance Standards.

PROGRAM BENEFIT SUMMARY

The benefits of this PACTI clean coke production/power generation technology are:

(1) lower cost coke

(2) jobs in coal mining and coke production (the use of domestic rather than imported coke)

(3) more economic steel making (the availability of lower cost coke and electric power for the steel mill operations), and finally

(4) a safer, cleaner environment.

SUPPLEMENTAL INFORMATION

Exhibit #	Subject
1.	Westinghouse Electric Corporation letter dated May 1, 1985 Subject: "Cost Effectiveness of Novel Flue Gas Desulfurization Technology to PACTI Coke/Energy Production System."
2.	Iron & Steel Engineer report, dated June, 1979. Subject: "Non-Recovery Cokemaking-Past, Present and Future" (This exhibit is being retained in the subcommittee files.)
3.	Air Pollution Control Association report, dated April 1979. Subject: "A Pollution-Controlled Non-Recovery Cokemaking Process"
4.	Pennsylvania Coke Technology, Inc. Summary Subject: "Comparative Advantages of PACTI Coke/Energy Production Systems."
5.	Excerpts from Paine Webber Mitchell Hutchins publication dated November, 1983. Subject: "World Coke Dynamics" Excerpt: Supply/Demand of Coke in USA and Free World
6.	Federal Register, September 18, 1984 Subject: "EPA Mandate for New Air Quality Standards to Conventional Cokemaking" (This exhibit is being retained in the subcommittee files.)
7.	Statement of Honorable Nick J. Rahall II Before the Subcommittee on Interior Committee on Appropriations, April 18, 1985.

EXHIBIT 1

R&D Center - 501 3E33
1310 Beulah Road
Pittsburgh, PA 15235

May 1, 1985

Mr. Joseph P. Ciarimboli, President
Pennsylvania Coke Technology, Inc.
101 N. Main Street
Greensburg, Pennsylvania 15601

Dear Joe,

You have asked that I summarize

- the novel technical features
- the significant economic benefits

of the heat recovery/power generation/gas cleaning system which Westinghouse has proposed for your Pennsylvania Coke Technology, PACTI, coke production plant.

The Westinghouse system described in the PACTI Informational Proposal to the U.S. DOE includes these technical features

- controlled, staged addition of air to the coal volatiles for NO_2 reduction in the combustion process.
- contact of the coal volatile/air combustion products with limestone/dolomite sorbents for SO_2 removal.
- particle removal from the hot combustion products by a combination of inertial separators and gas filters.
- heat recovery from the high temperature combustion products by steam production for power generation and from the combustion products at lower temperature by coal drying.
- coke quenching by steam to maximize the quantity of high temperature heat recovery for power generation.

While the physical and chemical principles associated with each of these technical features are known, their specific embodiment, combination, and integration with your non-recovery coke production process is novel. As you are aware, disclosures have been prepared, and patents are being pursued.

The economic benefits of integrating the Westinghouse heat recovery/power generation/gas cleaning system with the PACTI coke production process are significant as indicated by the technical and economic computations presented in the Appendices of the PACTI Informational Proposal.

- The capital cost of generation capacity, in $/kw, is less than half that of conventional utility coal fired power plants. The reasons for this significant cost saving are that the power generation system requires no coal handling, preparation, feed, and combustion equipment; no air supply; and no ash removal and handling equipment. These items are included in the coke production system.

- The gas cleaning equipment is simplified, lowered in cost, and enhanced in performance because sulfur and particulate levels in the combustion products of the coal volatiles from coking are significantly lower than those from the combustion of the pulverized coal.

- The fuel costs for power generation are essentially zero since the energy used is waste or by-product heat from the coke production/gas incineration system.

For all these reasons power can be generated in a PACTI coke production plant at lower cost, with less pollution than in conventional coal fired power plants. Furthermore the sale of power at $0.04 to 0.08/kwhr can return $20-60 for each ton of coke produced depending on the coal used, on the recovery of quench heat, and on the consumption of fines in the system.

The PACTI/Westinghouse coke/power plant is innovative, economic and ready for detailed design, installation, and operation on a commercial scale. I look forward to continued cooperation with you on this significant project.

Sincerely,

David

D. H. Archer, Manager
Process Engineering
Westinghouse NTD

EXHIBIT 3

A POLLUTION-CONTROLLED NON-RECOVERY COKEMAKING PROCESS

By JOSEPH P. CIARIMBOLI, President, Pennsylvania Coke
Technology, Inc., Greensburg, Pa.

As Presented Before

AIR POLLUTION CONTROL ASSOCIATION MEETING ON
THE CONTROL OF AIR EMISSIONS FROM COKE PLANTS
April 19, 1979
Pittsburgh, Pennsylvania

ABSTRACT

This paper reviews the recent successful developments for a pollution-control system to non-recovery cokemaking. These experimental developments have proven the basic merits of an integrated combustion chamber with the modern non-recovery coke oven design. The proprietary inexpensive combustion chamber was demonstrated effective in 1977 when the Pennsylvania DER granted process approval based on their stack test emissions data on the experimental unit at the Alverton Coke Company.

The experimental unit represents a 50% scale down of actual-size production units. Full-scale production engineering and feasibility studies have now been completed by PCT culminating a seven-year development program. The production system is now capable of treating both coking and quenching contaminants as well as any other fugitive emissions using the integrated combustion chamber concept. Quench wharf designs feature sectionalized wharf compartments in which quench vapors are captured and treated in the combustion chamber. The systems design provides for a minimum treatment of all pollutants at about one second at temperatures of 1650° - 2000° F.

A production demonstration unit featuring the complete pollution-control system is due to be constructed soon. The production system features a highly economic method of coke production capable of treating coking emissions as well as other industrial contaminants. Further adaptions of the system are now being developed for various energy-recovery and co-generation systems from the coking process.

INTRODUCTION

If NEED is the motherhood of invention, then Pennsylvania Coke Technology may well be "mothering" a new generation of coking technology -- particularly if the needs of the coke marketplace are defined as those of a process technology in need of both improved economics and improved cleanliness.

As we have heard at this conference and similar other technical conferences, the solution to today's coke pollution problems are costly and basically non-profitable. It is most questionable whether the overall economics of vertical slot type by-product ovens can reasonably justify new oven construction without very substantial coke price increases. Our newly developed PACTI system not only profitably operates at today's coke prices and today's environmental standards with an effective pollution-control system, but also promises to meet tomorrow's challenges for the energy by-product market.

We believe that current coke technology has not yet responded to the past two decades of changing business, ecological and energy need environments. It should be remembered that by-product recovery coke ovens of today are in response to the 1920 through 1950's market needs with various government encouragements (mainly financial); coke chemicals were a strategic defense item during that period. A review of the industry technology definitely points out that the historic non-recovery ovens were an exceptionally profitable business and capable of producing coke qualities comparable to the vertical slot ovens but unable to meet the pollution-control standards of the 1970's.

It was these considerations that led to the formation of Pennsylvania Coke Technology, Inc. several years ago. The original patents of Mr. James E. MacDonald, a retired refractories executive were acquired at that time. Mr. MacDonald had started his experimental developments in 1973 at the Alverton Coke Company near Greensburg, Pa. In 1977, these experimental efforts obtained the first and only pollution approval to a non-recovery cokemaking process. This success has also provided the continued existence of the Alverton Coke Company, now a licensee of Pennsylvania Coke Technology.

BACKGROUND: THE MODERN SOLE-FLUE NON-RECOVERY COKE PROCESS

The modern sole-flue heated non-recovery coke oven was actually developed in the 1910's in Australia and later modified in the U.S.A. during the 1960's where the non-recovery process of coking from top of the charge down was further complemented by the coking from the floor upward. The floor heats were obtained through the combustion of the coke oven gas in a sole-flue system under the oven floors. This two-directional coking was a major breakthrough for the improved economics and coke qualities obtainable with non-recovery ovens.

In the old beehive and modified beehive (a rectangular-shaped beehive known as the Mitchell oven), the temperatures increase to about 2100° - 2300° F. when coking occurs from the top to bottom. In the sole-flue oven, when coking occurs from both the top and bottom, the temperature increases with the same coal to approximately 2700° F. The additional heat developed both by reflection from the oven crown and by conduction through the brickwork of the floor causes a more rapid heat transfer and greatly increases the capacity of the oven. In addition, the sole-flue type oven gives efficiency not previously possible with non-recovery ovens. Control of operations with uniform heating throughout the coking cycle gives consistent size to the coke produced as well as consistent chemical and physical properties.

The purpose of this paper is not to discuss in detail the basic physical characteristics of the horizontal sole-flue non-recovery ovens as compared to that of today's conventional by-product oven; it is important, however, to consider the relative economics between these two methods of coking as outlined in a later section of this report. Of more importance to this distinguished audience is the experimental success and development efforts Pennsylvania Coke Technology has made with the pollution controls and the pollution approvals with the PACTI Coke System.

THE PACTI COKE SYSTEM - OPERATIONAL SCHEMATICS

The schematics of the Pennsylvania Coke Technology pollution-approved non-recovery coking system identified the PACTI NR Coke System, is shown in Figure 1. The oven system features the basic modern sole-flue heated non-recovery type coke oven as described above. As shown in Figure 1, one adaption of this PACTI system is to incorporate an incineration chamber between two adjoining horizontal non-recovery ovens.

The production operations consist of charging coal into the oven through either a larry car or conveyor/tripper system through the top trunnel openings. Carbonization begins immediately from the residual oven heat conditions. The charge is leveled from the pusher side. After the coking process is complete, the coke is pushed out of the oven onto an enclosed quenched wharf. The coke is water quenched under controlled conditions in enclosed quenched wharf and then dropped onto an enclosed underground take-off conveyor. This take-off conveyor has also provisions for a secondary quenching for any coke hot spots in delivering the coke product to the screen station.

EXPERIMENTAL PROCESS DESCRIPTION

The experimental facility consisted of two ovens, each 9' wide by 15' long, separated by a double pass ignition chamber system. One oven is charged as soon as possible after the previous charge has been drawn so that latent heat in the oven structure will be sufficient to start the coking process of the new charge. The two ovens were charged with coal 3 and 27 hours prior to the stack emissions test.

The lower portion of the top part discharge door is closed and sealed allowing the coal to be charged from a larry car through the three trunnel heads located at the top of each oven. The trunnel heads were partially sealed after charging was completed. The coal was then leveled to a uniform depth over the entire bottom of the oven through the upper portion of the discharge door. This assured a uniform coking of the coal. The upper portion of the discharge door is then closed.

The coking process begins as soon as the leveling of the coal bed has been accomplished. The oven rapidly reaches the kindling point of the combustible coke oven gases and with the presence of air, ignites and continues to burn slowly. The coking process continues for some 48 to 72 hours with the 4-foot charge of coal. An identical process occurs with the other oven but with a lag time of 24 to 36 hours.

At the end of the coking process, the discharge doors are opened and a watering device is inserted into the oven to partially quench the coke. The coke is then drawn (or "pulled") from the oven onto a conveyor by a bar/rake connected to a bulldozer. The coal is conveyed to trucks which transport it to the screening and storage areas.

The combustion (primary) air for the ovens is principally supplied from the controlled openings around the trunnel heads. As coking begins, this air supply is continually decreased until the ovens are completely sealed. A slight vacuum condition of about 0.15 inches water pressure is maintained throughout the coking cycle by means of the stack draft conditions.

PACTI POLLUTION-CONTROL DEVELOPMENTS

To understand the PACTI pollution-control system, it is important to first follow the coke gas flow schematics. As outlined in Figure 2, the process system's coke gas is taken from atop the carbonizing coal charge, combusted with secondary air in the vertical downcomers and to complete combustion in the sole flues (beneath the oven floor surface). These gases then enter the incineration chamber which is designed to inexpensively provide residence time at temperatures 1600 to 2000° F. to pyrolyze the hydrocarbon pollutants. In the production battery operations, the gaseous effluent are transferred to a large common flue duct which, as outlined in latter sections of this report, are further captured to waste heat energy-recovery systems.

In the experimental oven, the effluent was discharged from each oven through four downcomers located at each side of the ovens, passing the heat, flame, and gases down through the side walls into the eight sole flues located beneath the oven floor. From under the floor, the effluent passes into the bottom of the ignition chamber up-pass, over the ignition chamber division wall to the down-pass then into the stack flue, as shown schematically in Figure 3. The ignition chamber operates at an average temperature of 1650°F. to consume the excess coke gases. These temperature conditions are manually maintained through the use of No. 2 fuel oil burners located in the ignition chamber. Fuel oil is consumed at the rate of 3 gallons/hour and are operated for the initial 6 to 8 hours for the oven coking cycle. Secondary preheated air is supplied to the ignition chamber through a fan which induces air from both the stack flue and ambient surroundings. The preheated air provides the complete combustion of the fuel oil/coal gas mixture.

The effluent is finally discharged to the atmosphere through a 22"x27" stack having a discharge point approximately 30 feet above ground level.

The two passage-way system through the checker system provides a more effective means of developing the necessary residence time without any detrimental effects to the coking process. The encircled areas in the stack schematics are indicative of the locations in which stack emissions tests were made.

EXPERIMENTAL STACK TEST RESULTS

These stack tests were conducted in the latter part of 1976 by the Bureau of Air Quality and Noise Control, Department of Environmental Resources, Commonwealth of Pennsylvania. The test results showed the actual rate of particulate matter emitted in the experimental stack was 0.77 lb./hour or 0.056 grain/DSCF and a sulfur dioxide emission rate of 4 lb./hour or 252 ppmv. The Orsat analysis of the stack gases showed no traces of carbon monoxide, about 6% carbon dioxide, 13% oxygen and the remaining 81% as nitrogen. The flue temperatures were measured at nearly 1000° F., which is somewhat lower than that expected with the production battery. The test coals used in these experiments contained nearly 0.7% sulfur with a heat-content value of 13.750 BTU/lb.

Based on these low levels of emissions, the Commonwealth of Pennsylvania issued an approval of the process on January 18, 1977 and granted an operating permit for the units.

With this success, Pennsylvania Coke Technology (PCT) was able to continue the developments of a complete pollution-control system for the horizontal sole-flue non-recovery cokemaking process. These developments, as made over the past several years, now provide complete non-recovery coke production system able to completely control the pollution emissions. These controls include the emissions from materials handling, charging, coking, pushing and quenching through the patented consumption chamber incinerating particulate and gaseous contaminates to a clean hot-air effluent. It should be noted that this system does not address the problems of desulfurization. These problems are totally a function of the coals selected. In most cases of the marketplace, the upper sulfur limits of the coke product specification will permit the PACTI coking operations without a desulfurization plant. This statement is made only with respect to existing sulfur pollution regulations. If the EPA, in fact, adopts the Pennsylvania standards for allowable sulfur emissions in non-recovery coking, then the PACTI system may well avoid the additional expenses of sulfur controls.

THE COMPLETE PACTI POLLUTION-CONTROL SYSTEMS

The emissions controls for the charging operation are achieved through the sealed system at the oven trunnel heads. The oven negative draft conditions provides the air flow conditions to inhale any airborne particles into the chamber proper while doors at either end of the oven are closed. Actual monitoring experiences at EPA, Region III, has testified to the relative cleanliness of charging with a production battery of the modern sole-flue heated non-recovery ovens.

The emissions controls for the pushing operation is accomplished with an enclosure on the coke side and either closed doors or partial hooding on the pusher side. Again, the oven negative draft conditions play an important role in treating the pushing emissions by providing an immediate outlet into the oven combustion zones of the downcomers and the sole flues. A back-up system of partial hooding at the pusher side has been developed in the event fugitive emissions problems occur.

The emissions controls for the quenching operations are accomplished through the enclosed quench wharf, where a suction fan directs the quench vapors into the incineration chamber. The system is designed for operational controls in quenching which the industry cannot experience today. The wharf and operational design allows a time period during quenching in which less quenching waters are involved and in which the latent and specific heat values of quench vapors are effectively used. The system, as designed, permits up to 50% savings in quench water supplies while minimizing the pollution controls for the effluent quench water. The operations and systems design provides the necessary residence time at temperature in the consumption chamber to treat the entire amount of quenching vapors. We felt this was a very important consideration and, in fact, have redesigned the basic design parameters of the chamber to accommodate such conditions.

The coke take-off conveyor located at the base of the quench wharf is also totally enclosed and equipped with additional quenching facilities. The tunnel enclosure will be equipped with temperature sensors which allow quenching for any hot spots on the conveyor. Pollution controls for the take-off coke conveyor and secondary quenching is accomplished through the coke side enclosure into the incineration chamber.

CONCLUSIONS

The success of these experimental developments has opened some completely new cost-effective approaches to the process economic and pollution problems confronting today's U.S. coke industry.

From a pollution-control perspective, the inexpensive and self-energy sufficient incineration chamber provides the new vehicle to treat the carcinogens and other coking pollutants in a most effective and proven manner. These unique concepts now permit the consideration of a highly profitable coking operation in most any attainment or non-attainment environmental area. Recent joint feasibility studies with a major foundry coke user have demonstrated the unique abilities of the PACTI Coke System to assist in cleaning foundry and certain other industrial pollutants for considerations in certain non-attainment areas.

From a comparative economic perspective, as briefly outlined in Table 1, the overall flexibilities and advantages of the PACTI type non-recovery coking process bear considerable attention. Of particular significance, is the PACTI'S ability to save over 70% the capital costs and over 50% the operating costs as compared to conventional vertical slot by-product coke processing, with less stringent coal requirements and with the ability to immediately respond with little lead time required for the materials of construction.

These experimental success and continued developments are now affording Pennsylvania Coke Technology the opportunity to soon construct a complete production demonstration unit near a major coal mine site. This pursuit should ultimately develop a new era of cokemaking economics and cleanliness and hopefully assist with our national energy priorities to extract new energy sources, as schematically shown in Figure 4.

TABLE 1

COMPARATIVE PACTI BENEFITS

(As compared to conventional, by-product, vertical-slot coke ovens)

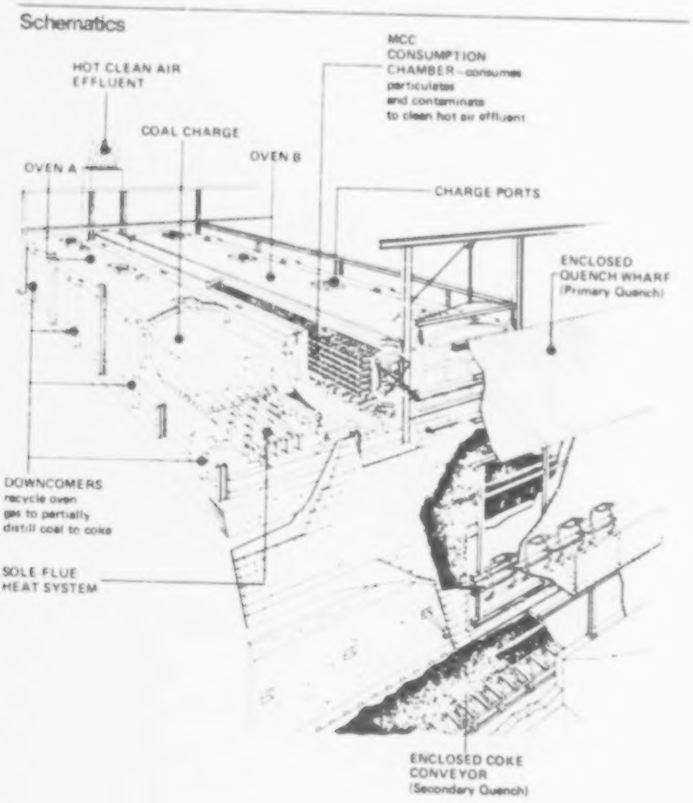
CAPITAL COSTS	- 4 to 6 times less cost (@ Minimum)
OPERATING COSTS	- 35% to 50% less cost
CONSTRUCTION TIME	- Approx. 1. yr./ battery (50% to 75% less time)
REFRACTORIES	- Standard off-shelf items
MAINTENANCE COSTS	- Approx. 5 to 6 times less
REPAIRABILITY	- Individual ovens repairable without interruption of operations
HEAT CONTROLS	- Readily achievable to automated status
HEAT DISTRIBUTION	- Self-generating and consistent heat distribution profiles

EXTERNAL ENERGY REQTS.	- Self-sustaining
COAL BLENDS	- Not necessarily required
COKE YIELD OPTIMIZATION	- Attainable with lower volatile, high swelling coals
COKE QUALITY	- Better grades and sizes available with wider coal selection latitude
COKING RATE	- Comparable to vertical-slot oven or better
ENERGY RECOVERY	- Good economics with energy recoveries
POLLUTION CONTROL EXPENSE	- Inherent part of process with controls to charging, coking, pushing and quenching emissions.

FIGURE 1.

PACTI NR Coke Process

(Proven Non-Recovery Coke Oven Technology)


Schematics
HOT CLEAN AIR EFFLUENT
COAL CHARGE
OVEN A
OVEN B
MCC CONSUMPTION CHAMBER—consumes particulates and contaminate to clean hot air effluent
CHARGE PORTS
ENCLOSED QUENCH WHARF (Primary Quench)
DOWNCOMERS recycle oven gas to partially distill coal to coke
SOLE FLUE HEAT SYSTEM
ENCLOSED COKE CONVEYOR (Secondary Quench)

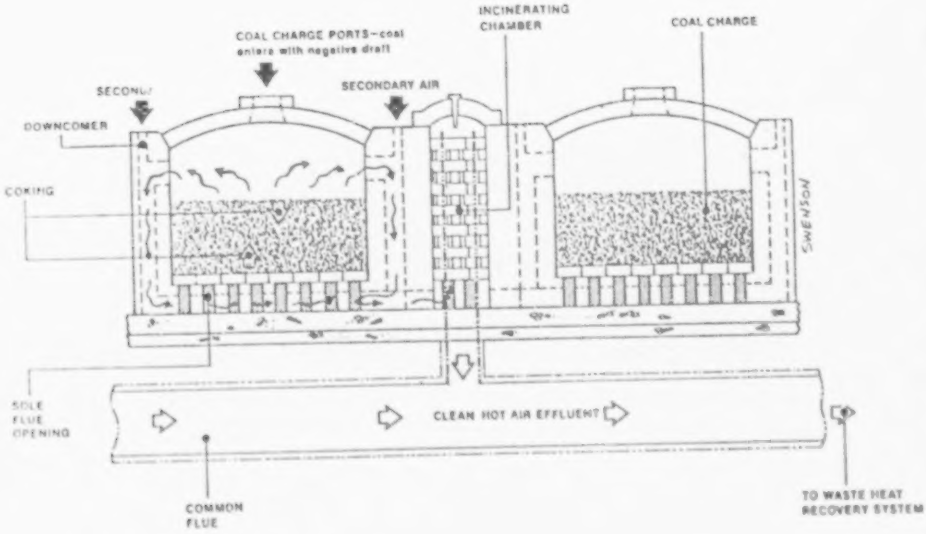
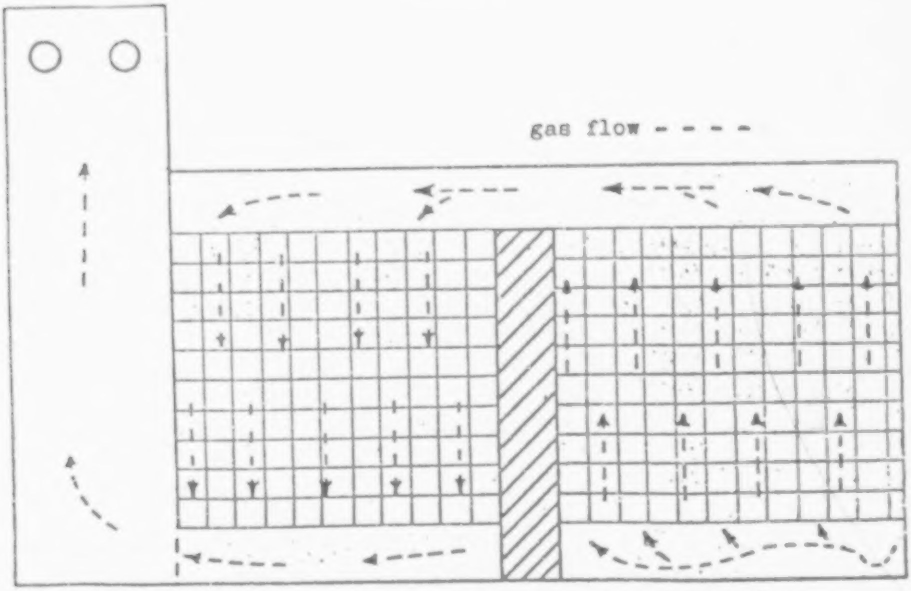

INCINERATING CHAMBER
COAL CHARGE PORTS—coal enters with negative draft
COAL CHARGE
SECOND
SECONDARY AIR
DOWNCOMER
COKING
SWENSON
SOLE FLUE OPENING
CLEAN HOT AIR EFFLUENT
COMMON FLUE
TO WASTE HEAT RECOVERY SYSTEM

FIGURE 2. COKE GAS FLOW SCHEMATICS OF PACTI COKING SYSTEM-COKE GAS IS TAKEN FROM ATOP THE CARBONIZING COAL CHARGE, COMBUSTED WITH SECONDARY AIR IN VERTICAL DOWNCOMERS AND TO COMPLETE COMBUSTION IN SOLE FLUES (BENEATH FLOOR SURFACE) TO INCINERATION CHAMBER WHICH IS DESIGNED TO PROVIDE RESIDENCE TIME @ TEMPERATURES OF 1600 TO 2000° F TO ELIMINATE HYDROCARBONS. THE WASTE HEAT EFFLUENT IS TRANSFERRED TO A LARGE COMMON FLUE DUCT IN PRODUCTION BATTERY.

FIGURE 3.



End view of PACTI'S MCC (MacDonald Consumption Chamber) incineration of effluent coke gases as emitted from the sole flues. The two-passage system provides an effective means of assuring residence time at temperature without any detrimental effects to the coking process.

EXHIBIT 4

COMPARATIVE ADVANTAGES OF PACTI COKE/ENERGY PRODUCTION SYSTEMS

Advantages - Non-Recovery/Co-Generation Systems

Low Capital Costs (about 60% less)

Low Financing Costs

Less Construction Time (NR at 2 yrs vs. Rec at 4 yrs)

More Efficient (NR costs 50% less to operate)

Energy By-Products (at 44 megawatt cogenerated to 600,000 TPY coke)

Readily turned on/off

More latitude in coal selection (sole sourcing)

Environmentally proven and acceptable to EPA plus PA & WV

Capable of Producing Coal at Costs less than Japanese coke imports

Capable of Producing 1200 ongoing jobs for each coke battery plus additional 400 jobs for constuction.

EXHIBIT 5

(Excepts from "World Coke Dynamics", publication by Paine Webber Mitchell Hutchins, Inc. Subject - Supply/Demand of Coke in USA and Free World)

WESTERN WORLD COKE CAPACITY
(Million annual tons coke)

	1977	1986	(Age)	1990
USA	56	36	(21)	36
EEC-9	86	71	(22)	71
Other Europe	14	19	(17)	19
Japan	56	55	(15)	55
Oceania	5	4	(14)	9
Canada	5	6	(21)	9
Latin America	10	15	(13)	16
Africa/M.E.	8	7	(15)	8
Far East	11	14	(12)	26
Totals	251	227	(18)	249
Composite Age	15	18		22

Adj. BF Coke Supply/Demand
(Million annual tons coke)

	1986 Supply/Demand	1990 Supply/Demand
USA	25/33	24/31
EEC-9	45/40	48/43
Other Europe	15/12	15/13
Japan	38/40	38/41
Canada	5/5	6/5
Oceania	3/4	7/4
Latin America	12/11	13/13
Africa/ME	6/5	6/5
Far East	14/15	18/16
	163/165	175/171

Comparative Cokemaking Economics

Net Coke Cost at average values per metric tonne (1981-82) - U.S. dollars

USA	$126
W. Germany	$119 (subsidized)
	$147 (not subsidized)
Japan	$107

USA COKE MARKET

Geographic Status

Region	'82 BF Coke Production		Mid-Point Forecasts	
	Supply	Demand	'85 Balance	'90 Balance
Pittsburgh	8	6	+1.4	+1.9
East PA/MD	4	3	-0.2	-0.2
S. Central OH/KY	2	2	+0.4	+0.1
E. Great Lakes	4	5	-5.0	-4.6
W. Great Lakes	7	6	-5.3	-5.1
Midwest	1	1	+0.2	+0.2
West	2	1	+0.1	-0.1
Southeast	1	1	-0.2	-0.3

EXHIBIT 7

STATEMENT OF
HONORABLE NICK J. RAHALL, II
BEFORE THE
SUBCOMMITTEE ON INTERIOR - COMMITTEE ON APPROPRIATIONS

THURSDAY, APRIL 18, 1985

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. WE APPRECIATE THE TIME YOU HAVE GIVEN US TO DISCUSS OUR VIEWS IN SUPPORT OF AN APPROPRIATION FOR THE CLEAN COAL TECHNOLOGY PROGRAM TO BE ADMINISTERED BY THE DEPARTMENT OF ENERGY.

I HAVE JOINED WITH OUR COLLEAGUES FROM OHIO TODAY TO INDICATE THAT THIS PROGRAM IS OF GREAT IMPORTANCE NOT ONLY TO THOSE IN COAL PRODUCING REGIONS, BUT ALSO TO THOSE IN REGIONS WHICH USE COAL.

AS YOU WERE INTIMATELY INVOLVED IN THE EFFORT OF LAST YEAR WHICH RESULTED IN THE PARTIAL RESCISSION OF SFC FUNDS AND SUBSEQUENT $750 MILLION AUTHORIZATION OF A CLEAN COAL TECHNOLOGY RESERVE -- SUBJECT TO APPROPRIATION -- I WILL BE BRIEF.

ALL THAT REALLY NEEDS TO BE SAID IS THAT IF YOU WANT TO ADDRESS THE SO-CALLED ACID RAIN PROBLEM, FUND CLEAN COAL TECHNOLOGIES. IF YOU WANT TO PROVIDE CONSUMERS WITH LOW-COST ENERGY, FUND CLEAN COAL TECHNOLOGIES. THERE IS NO DOUBT THAT MANY OF THESE NEW TECHNOLOGIES ARE IN NEED OF FEDERAL ASSISTANCE AND WILL

ALLOW COAL TO BE BURNED IN A MORE EFFICIENT AND ENVIRONMENTALLY SOUND MANNER.

I WOULD, HOWEVER, LIKE TO DRAW YOUR ATTENTION TO A LESS PUBLICIZED ASPECT OF THIS SUBJECT. TO MAKE STEEL, GENERALLY, YOU NEED COKE PRODUCED FROM METALLURGICAL COAL. TODAY, AS THE DOMESTIC STEEL INDUSTRY CONTINUES TO GET ITS HOUSE IN ORDER, THE NATION IS FACED WITH A SHORTFALL IN DOMESTIC COKE PRODUCTION DUE TO THE FACT THAT OUR COKE OVENS ARE BEING ABANDONED LARGELY AS A RESULT OF AN INABILITY TO COMPLY WITH ENVIRONMENTAL STANDARDS. THE FINAL BLOW TO THE DOMESTIC COKE INDUSTRY WAS STRUCK LAST SEPTEMBER WHEN THE ENVIRONMENTAL PROTECTION AGENCY ANNOUNCED THAT IT IS LISTING COKE OVEN EMISSIONS AS A HAZARDOUS AIR POLLUTANT.

AS SUCH, WE HAVE SEEN THE RAPID ESCALATION OF IMPORTED COKE ENTERING THE NATION DRIVING PRICES HIGHER AND MINE WORKERS OUT OF THEIR JOBS.

AND, IN FACT, WHILE IN 1983 THE UNITED STATES IMPORTED ONLY 35,000 TONS OF COKE, LAST YEAR 582,000 TONS WERE IMPORTED, WITH 354,000 OF THIS AMOUNT ORIGINATING IN JAPAN -- A PARADOX WHEN WE CONSIDER THAT JAPAN IS A FUEL HAVE-NOT.

WHAT IS NEEDED, MR. CHAIRMAN, IS A CLEANER AND MORE EFFICIENT METHOD OF PRODUCING COKE AND THE IRON NECESSARY TO MAKE

STEEL. IN THIS REGARD, TWO PROPOSALS SENT TO DOE UNDER ITS CLEAN COAL TECHNOLOGY SOLICITATION ARE ILLUSTRATIVE OF WHAT CAN BE ACCOMPLISHED -- THAT FROM WEIRTON STEEL IN WEST VIRGINIA AND THAT FROM PENNSYLVANIA COKE TECHNOLOGY IN CONJUNCTION WITH WESTINGHOUSE.

THESE PROPOSED TECHNOLOGIES ARE AIMED AT PRODUCING IRON THROUGH INNOVATIVE PROCESSES WHICH WOULD COMPLY WITH STRINGENT ENVIRONMENTAL REGULATION.

I WOULD LIKE TO BRIEFLY MENTION ANOTHER TECHNOLOGY -- AGAIN, ONE NOT USUALLY DISCUSSED IN COAL R & D FORUMS.

RECENTLY, IN THE HILLS AND HOLLOWS OF SOUTHERN WEST VIRGINIA, THE DISTINCTIVE SOUND OF THE STEAM LOCOMOTIVE -- LONG CONSIGNED TO THE DUSTBIN OF MEMORY -- WAS HEARD ONCE AGAIN IN THE FORM OF AN EXPERIMENTAL COAL-FIRED LOCOMOTIVE DEVELOPED BY AMERICAN COAL ENTERPRISES. WITH FURTHER DEVELOPMENT, WE CAN BRING BACK THE STEAM ENGINES OF YESTERYEAR WITH THE RESULTING BENEFIT OF LOWER RAILROAD TRANSPORTATION COSTS. ACE HAS FILED A PROPOSAL WITH DOE, AND I BELIEVE THIS IS ANOTHER TECHNOLOGY WORTH FUNDING UNDER THE CLEAN COAL TECHNOLOGY PROGRAM.

I WOULD NOW DEFER TO MY COLLEAGUES ON THE PANEL. AFTERWARDS, IF YOU WISH, I WILL SWITCH SUBJECTS AND ADDRESS YOUR CONCERNS WITH CERTAIN INTERIOR DEPARTMENT PROGRAMS, SUCH AS THE OIL AND GAS LOTTERY, IN MY CAPACITY AS CHAIRMAN OF THE SUBCOMMITTEE ON MINING AND NATURAL RESOURCES.

Senator JOHNSTON. Senator Byrd may have some questions.

Senator BYRD. I have had occasions in the past to discuss with Mr. Ciarimboli the possibility of developing some coke making processes in West Virginia.

As I gather from your testimony, one of the main reasons why coke is being imported into this country and not produced here is because of environmental constraints; is that correct?

Mr. CIARIMBOLI. That is correct, Senator.

Senator BYRD. And then I also get from your testimony that Japan and other countries, Germany I suppose, offer subsidization to their industries, do they? Do they subsidize their industries?

Mr. CIARIMBOLI. That is true, Senator. Indeed, as the study I had indicated had pointed out in its comprehensive study, there is such indication.

Senator BYRD. Would the process that you are proposing to scale up meet present environmental standards at a cost that is competitive with present coke import prices?

Mr. CIARIMBOLI. Yes, Senator; some 4 years ago we had applied and obtained EPA approvals for a site that we had intended then for West Virginia.

On a cost-effective basis I am delighted to report to you that despite the subsidies of foreign coke such as that from Japan, indeed we have demonstrated that we can produce some 10- to 15-percent less than that being provided from countries such as Japan. Much of that, of course, is from the energy aspects of the program that is part of this emerging technology we are applying for.

Senator BYRD. Mr. Chairman, we are constrained by the clock. I will not ask any further questions at this time.

I wish to thank Mr. Ciarimboli.

Mr. CIARIMBOLI. Thank you, Senator.

Senator JOHNSTON. Thank you very much, Mr. Ciarimboli.

STATEMENTS OF:
GEORGE EATMAN, SLURRY TECHNOLOGY ASSOCIATION
CHARLES B. HENDERSON, SENIOR VICE PRESIDENT, ATLANTIC RESEARCH CORP.

Senator JOHNSTON. Next we are especially pleased to welcome Mr. George Eatman with the Slurry Technology Association.

Mr. EATMAN. I am George Eatman with the Slurry Technology Association. I would like to introduced Mr. Charles B. Henderson who is the senior vice president at Atlantic Research Corp., in Alexandria who will be presenting the testimony on our behalf this afternoon.

Mr. HENDERSON. Thank you.

Senator Johnston and Senator Byrd, I would like to summarize the testimony that I have submitted in a written fashion.

On behalf of the Slurry Technology Association and its 65 members, I am pleased to submit this testimony in support of congressional appropriations for the clean coal technology program.

The Slurry Technology Association is the trade association representing the slurry fuels industry. The STA commends Congress for its initiation and support of this program.

Our organization strongly believes that with a demonstration and adoption of new technologies that coal can be converted to electricity and steam in an environmentally acceptable manner without throwing commoners out of work.

Much of this technology has been developed through the laboratory small pilot stages, but to convince the user that scaled-up technology is reasonably reliable and economically viable requires meaningful demonstration programs. The risk and cost of such programs presents a barrier to their use by the private sector and delays commercial application.

The support offered by the congressional initiative, if enacted, will be an essential key to overcoming this barrier.

A number of projects proposed by our members promote or involve the use and development of slurry fuels. Categories of the initiative in which slurry fuels can be assisted and substantial national benefits realized include fluidized bed combustion, advanced combustors using limestone injection, and coal water gasification as well as coal beneficiation projects submitted under the category of coal preparation.

Dr. Green today has already introduced one example of a coal preparation project, namely, technology for removing sulfur from coal microbiologically. Sulfur in coal is found mainly in two forms, iron pyrite and organic sulfur. A large percentage of the iron pyrite can be removed from coal by commercially available coal cleaning processes, but organic sulfur cannot be so removed.

Our senior microbiologist has engineered a microbe that will remove up to 47 percent of the organic sulfur in bituminous coals. In the past 18 months we have demonstrated that coal can be microbiologically desulfurized in a continuous 1.5 ton per day pilot unit.

In addition, we have eight new microbes under development in the laboratory that show promise of removing an additional 30 to 40 percent of the organic sulfur. A combined physical and microbiological process can produce a clean coal with a sulfur content decrease of 70 to 90 percent.

Members of the Slurry Technology Association involved in slurry fuels include besides the Atlantic Research Corp., Bechtel, Carbogel, Combustion Engineering, OXCE Fuels, Pfizer, Pipeline Systems, Inc., Sohio/Advanced, Snamprogetti, Stone & Webster, Texas Eastern, and Virginia Power.

All of these companies have invested significant sums of money in the development or the engineering of coal-water slurry fuels. These fuels for boilers and industrial furnaces consist of approximately 70 percent coal with the remainder being water with a small amount of chemical additives.

Coal-water fuels are a natural partner with deeply cleaned coal. To liberate the finely divided mineral matter present in coal it is necessary to grind the coal to a fine powder. Many cleaning processes involve slurrying the coal with water. These are just the processes required in the manufacture of coal-water fuels.

To dry the finally divided coal slurry requires the expenditure of energy and presents a transportation problem with the finished product. Coal-water fuel is the preferred product of deeply cleaned coal.

The moneys required for scaleup and commercialization of a process such as the microbiological process and other processes developed by other companies of our organization are scarce in view of the current depressed coal market. As a result, Government support to aid in the development of these exciting new technologies is both appropriate and necessary.

We hope that our lawmakers will support this important program. We believe that ensuring the U.S. future energy supply and a habitable environment should be a national priority even in times of difficult budgeting problems.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Henderson. We will place your prepared statement in the record.

[The statement follows:]

STATEMENT OF CHARLES B. HENDERSON

On behalf of the Slurry Technology Association, I am pleased to submit this testimony in support of congressional appropriations for the clean coal technology program. The Slurry Technology Assocaition [STA] is the trade association representing the slurry fuels industry. Members of the Slurry Technology Association involved in slurry fuels include: Atlantic Research Corp., Bechtel, Carbogel, Combustion Engineering, OXCE Fuels, Pfizer, Pipeline Systems Inc., Snamprogetti, Sohio/Advanced Fuels Technology, Stone & Webster, Texas Eastern, and Virginia Power.

The STA commends Congress for its initiation and support of the clean coal technology program. We are all aware that coal must plan an increasingly important role in providing our Nation's need for energy. We are also aware of the desire for a clean environment. Our organization strongly believes that these two objectives are not mutually exclusive. We believe that with the demonstration and adoption of new technologies that coal can be converted to electricity and steam in an environmentally acceptable manner that can give a boost to the American coal industry (that is, without throwing coal miners out of work). Much of this technology has been developed through the laboratory stage and in some instances, even small pilot projects have been developed. To convince the user that the scaled-up technology is reasonably reliable and economically viable requires meaningful demonstration programs. The risk and cost of such demonstration programs present a barrier to their use by the private sector and delays commercial application of the technology. The support offered by the congressional initiative, if enacted, will be an essential key to overcoming this barrier.

All of the STA members mentioned above have invested significant sums of money in the development or the engineering of coal-water fuels. Part of my testimony will show that this technology will permit a much higher degree of coal cleaning prior to combustion in boilers and furnaces. In addition several members have developed pertinent technology and proposed its demonstration in the clean coal technology program. I will briefly summarize one such program.

Coal-water slurry fuels consist of approximately 70 percent coal and the rest water with a small amount of chemical additives. The coal in the slurry fuels can have a conventional grind of pulverized coal or a finer grind of micronized coal. The former can be used in coal-designed boilers that are currently oil-fired and in some oil-designed boilers accompanied with some capacity derating. The latter have been developed as replacement fuels for oil-designed and gas-designed boilers without significant capacity derating. Coal-water fuels are a natural partner with deeply cleaned coal. To liberate the finely divided mineral matter present in coal, it is necessary to grind the coal to a fine powder. Many cleaning process involve slurrying the coal with water. These are just the physical processes required in the manufacture of coal-water fuels. To dry the finely divided coal slurry requires the expenditure of energy and presents a transportation problem for the finished product. Coal-water fuel is the preferred product of deeply cleaned coal.

A number of proposed projects promote or involve the use or development of coal-water fuels. Categories in which slurry fuels can be assisted and substantial national benefits realized include fluidized bed combustion, advanced combustors using limestone injection, and coal-water gasification, as well as coal beneficiation projects submitted under the category of coal preparation.

As one example of a coal preparation project, I will briefly describe a technology for removing sulfur from coal. Sulfur in coal is found mainly in two forms, iron pyrite and organic sulfur. A large percentage of the iron pyrite can be removed from coal by commercially available coal cleaning processes. Organic sulfur, however, cannot be removed with commercial technology.

Approximately 4 years ago, Atlantic Research's senior microbiologist was asked to evaluate the removal of organic sulfur by the use of microbes. In this program, she engineered a microbe that will remove up to 47 percent of the organic sulfur in bituminous coals. This microbe has undergone extensive testing in our laboratories. It acts on coal by oxidizing certain forms of organic sulfur to produce a water soluble sulfur compound which is easily washed from the coal. The resultant coal shows no loss of heating value. In the past 18 months, ARC has demonstrated that coal can be microbiologically desulfurized in a continuous 1.5 ton per day pilot unit. In addition, eight new microbes are under development; they show promise of removing an additional 30–40 percent of the organic sulfur.

A conmbined physical and microbiological process can produce a clean coal at greater than 80 percent Btu recovery with less than 5 percent ash and a sulfur content decrease of 70–90 percent. The clean coal has been used for producing coal-water fuel.

The moneys required for scaleup and commercialization of such a process, and similar processes developed by oher companies, are scarce in view of the current depressed coal market. As a result, Government support to aid in the development of these exciting new technologies is both appropriate and necessary. We hope that our lawmakers will have the wisdom to support this important program. We believe that ensuring the U.S.'s future energy supply and a habitable environment should be a national priority even in times of difficult budgeting problems.

Senator JOHNSTON. Can you inject this microbe into—let's say you had a coal slurry pipeline—could you put it in the pipeline and let it be doing its work while the coal is going down the pipeline, or do you have to put it in——

Mr. HENDERSON. We put it in a coal preparation plant. We have not yet demonstrated that it can be put in a pipeline. It is an aerobic process and in the pipeline the air is depleted. So we are not sure it will work, and, in fact, we are sort of doubtful.

Senator JOHNSTON. Do you have to keep circulating the air?

Mr. HENDERSON. We must have air.

Senator JOHNSTON. And how long for a cycle through?

Mr. HENDERSON. Approximately 12 hours in the tank.

Senator JOHNSTON. In 12 hours you can remove up to 47 percent?

Mr. HENDERSON. Forty-seven percent of the organic sulfur, and the pyritic sulfur is removed with other processes.

Senator JOHNSTON. If 47 percent is the top, what is the average?

Mr. HENDERSON. The average that we have done to date is approximately 32 percent of the organic sulfur, and if we remove say 90 percent of the pyritic sulfur, that would mean we are up at around 60 to 70 percent of the total sulfur that would be removed.

Senator JOHNSTON. I don't follow that. Sixty to seventy percent of the total sulfur is removed?

Mr. HENDERSON. Yes; we would remove the pyritic sulfur with a physical process, and we can remove 80 to 90 percent of that by some washing technique. Then we would go to the microbiological process and remove 30 to 40 to 50 percent of that with a microbiological process. As far as the total combined sulfur, we would be up to around 60 to perhaps 70 and maybe 80 percent.

Senator JOHNSTON. Now your 47 percent, you remove that much of what is left, or that is the total?

Mr. HENDERSON. That is just the amount that is left after removing the pyrites, 47 percent of what is remaining.

Senator JOHNSTON. Would it be a cheap process do you think?

Mr. HENDERSON. Right now it is probably not too cheap. It is about $22 a ton. Our goal is to get it down below $15 a ton, and we think that is going to be achievable, but it requires more work.

Senator JOHNSTON. Senator Byrd?

Senator BYRD. No questions. Thank you, Mr. Henderson.

Senator JOHNSTON. Thank you very much, Mr. Henderson.

Mr. HENDERSON. Thank you.

STATEMENT OF PAUL BEKOWIES, PRESIDENT OF RESOURCE TECHNOLOGIES GROUP, INC.

Senator JOHNSTON. Next we would like to welcome Mr. Paul Bekowies with the Resource Technology Group, Inc.

Mr. BEKOWIES. Thank you, Mr. Chairman.

My name is Paul Bekowies. I am here today as president of Resource Technologies Group, Inc., RTGI for short.

RTGI is an independent research development firm located in Morgantown, WV. Its energy related activities include process evaluation and development related to the fossil energy industry and coal in particular primarily through contracts with the Department of Energy and with private clients.

RTGI has actively evaluated different aspects of gas stream cleanup for coal gasification and combustion since 1979. RTGI has also developed at the laboratory scale until recently several processes for effectively preparing and utilizing clean coal in an environmentally acceptable manner.

Today I would like to introduce one of these technologies, the ULTRA-CLEAN process.

May I direct your attention to figure 1 on page 3 of their handouts that you have now.

ULTRA-CLEAN is designed to produce a zero ash coal from medium- or high-ash bituminous feed material. Central to the technology is a chemical extractant not previously utilized in the coal industry, to our knowledge, that solubilizes part of the coal in a form that can readily be reconstituted as an ash-free coal-water mixture which contains no pyritic sulfur and requires no additives to maintain stability when the material is carried in the pipeline. The material also has no known abrasive properties owing to its freedom from mineral matter.

The material after extraction remaining is further upgraded using a very low energy mechanical means. The ash is removed then using ordinary coal industry methods and the product material remaining then may be used as a low to zero ash pulverized coal or pelletized into a premium stoker fuel.

The ULTRA-CLEAN process derives its advantages from its simplicity and from its product versatility. To illustrate, let us compare CWM, coal-water mixtures, as conventionally produced, and conventionally is in quotes because CWM itself is an emerging technology, versus the ULTRA-CLEAN methodology.

If I may direct your attention to figure 2 on page 5 of the materials that you have in front of you. The salient points are that the primary cost of conventional coal-water mixture preparations includes a grinding step and a surfactant which must be added to the mixture to maintain its flowability when it is transported in a pipeline.

The proposed ULTRA-CLEAN method utilizes virtually no grinding to speak of, substituting an extracting agent instead at about $15 a ton compared to $60 a ton for grinding.

After the extraction the mixtures in both cases would be beneficiated by similar methods. But because of the efficiency of the ULTRA-CLEAN method, this material seems to achieve a very high separation of ash from the parent mixture resulting in essentially a zero ash product that is then shipped off and down the pipeline, zero ash, zero abrasion and zero surfactant.

Senator JOHNSTON. And what is a surfactant?

Mr. BEKOWIES. A surfactant is a chemical which is added to a coal, in this case, or to your dishwater, for another example, to maintain things which would not normally be stable in water in suspension as they travel.

Senator JOHNSTON. An emulsifer more or less?

Mr. BEKOWIES. In a manner of speaking, yes, more as a detergent you might think of it.

The ULTRA-CLEAN process is not, despite the fact that it uses liquid chemicals in one stage of its process in a coal liquefaction technology, and we want to emphasize that strongly, does not contain the inherent technological disadvantages of liquification either.

If I may direct your attention to figure 3, we have summarized the advantages of the ULTRA-CLEAN technology in that it produces actually a clean coal, but in a form that can be tailored to the marketplace. It requires no additional hydrogen and plants can be constructed from standard materials.

The ULTRA-CLEAN process we have shown in the laboratory works on many different kinds of coals and operates at atmospheric pressure and very mild temperature conditions. In practical terms, gentlemen, this means that it is possible to profitably construct ULTRA-CLEAN coal plants at a very much more modest scale than might be expected, much more in keeping with the scale of a typical preparation plant say as it exists today.

Senator JOHNSTON. You end up with a product very much like SRC–I?

Mr. BEKOWIES. One could have something like that, but there is no hydrogenation involved in this step and the chemical processing is totally different and the conditions of operation are much milder.

Now ULTRA-CLEAN, our preliminary analysis indicates is commercially viable at a delivered selling price of $70 a ton. Figure 4 gives a few particulars for $80 a ton, which you might want to peruse at your leisure.

RTGI has contacted a number of companies to obtain expressions of interest in participating in a ventured commercially produced ULTRA-CLEAN coal products.

The Kingwood, WV, subsidiary of the Frazee-McCall Coal Co., has expressed interest in such a venture and possesses a needed marketing experience. Mr. Donald Frazee has wired a statement to this effect to us in care of Senator Byrd and a copy is provided in the handouts.

As shown in the bar chart, which is on page 10 of your handouts, we are seeking a total of $13.1 million over a period of 4 years, by the end of which time a 30-ton-per-hour plant would be in full operation. Approximately one-half of the funds represent the investment needed for final process verification and construction and the remainder for startup and initial working capital.

A 30-ton-per-hour ULTRA-CLEAN plant would employ 10 persons directly, plus approximately 38 others in mining and transportation. The resulting tax base expansion would exceed the Government's outlay in about 5 to 6 years, and we have some graphics that indicate that in the handouts that may be of interest to you.

Early commercial operation through private sector investment is likely given a successful outcome of the process verification phase. The Frazee-McCall Coal Co., believes that the ULTRA-CLEAN products will find ready markets.

RTGI seeks direct Government support through the process verification phase to the extent of $500,000. Following successful completion of this phase, further support is sought such that one-half of the total project cost, including the $500,000, would be borne through the private sector and one-half by the Government.

Further operations and commercial expansion beyond that point would be financed entirely through private capital sources.

Now in the informational proposal originally submitted to the Department of Energy RGTI had suggested that the price supports might be necessary. Subsequent analysis, however, has indicated that significant market penetrations by the ULTRA-CLEAN products can be achieved at acceptable levels of commercial risk without price subsidies.

As a parting note, it appears to us that commercial operation can begin from 2 to 5 years sooner if the project is funded as a single package rather than as a development contract followed by separate construction and startup financing.

This contention is based on the observations that the lag between successful completion of a final development phase and commercial operation can be about this long any time the intended end use is uncoupled, so to speak, from a development.

Moreover, this project is already structured so that the process verification and the long-lead tests for a 30-ton-per-hour plant can easily proceed in parallel. Finally, the commercial interest is present now.

We solicit your support and we thank you again for the opportunity to appear before you today.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Bekowies, for a very interesting presentation. Your submitted statement will be placed in the record.

[The statement follows:]

STATEMENT OF PAUL BEKOWIES

1. Introduction

Thank you, Mr. Chairman. My name is Paul Bekowies and I am here today as President of Resource Technologies Group, Incorporated (RTGI). For the past fifteen years I have been involved in research and development in engineering and scientific activities related to production of clean energy from fossil fuels. Primary areas of endeavor have included postdoctoral research in combustion-generated air pollution at the University of California at Riverside and at the Lawrence Berkeley Laboratory (1970-1977); research and project management in cleaning of hot gas streams in for coal gasification and fluidized-bed combustion at the Department of Energy's Morgantown Energy Technology Center (1977-1979); and development of new coal treatment processes and air emission cleanup technologies (1979-present). I currently serve as an Adjunct Associate Professor in Mechanical and Aerospace Engineering at West Virginia University. My educational background includes a Ph.D. in physical chemistry from Cornell University (1971). I am a member of the West Virginia Coal Preparation and Engineering Society.

1.1 The Company

RTGI is an independent research and development firm located in Morgantown, West Virginia. Its energy-related activities and expertise fall into two main areas:

- Process evaluation and development related to the fossil energy industry. Primarily through contracts with the Department of Energy, and with private clients, RTGI has been active in evaluating different aspects of gas stream cleanup for coal gasification and combustion technologies since 1979. To date, RTGI has published over fifty articles and reports in these areas. RTGI has also developed, at the laboratory scale, several processes for effectively preparing and utilizing clean coal in an environmentally acceptable manner. Today I will introduce one of these infant technologies, the ULTRA-CLEAN process.

- Research into the fundamental chemistry of environmental and occupational health impacts of emerging fossil energy production technologies. RTGI's personnel experience with these aspects extends back to 1970 with our postdoctoral research in air pollution chemistry and biochemistry. Our research experiences led us to conclude that environmental acceptability for coal-related technologies begins with the fuel itself. It could be said that this was the beginning of RTGI's committment to developing economical, safe methods of preparing coal.

2.0 Rationale for Government Support

In considering our testimony, we were and are aware that a case could be made for the Government to fund only research projects and that a commercial venture should best be left in the hands of the private sector. In our view this position may have merit once a new technology, as opposed to an extension of existing methods, has been established at a pilot or at least a sub-pilot scale. For Government support through the commercialization stage, however, stronger justification is required. Reasons for support to commercialization emerge when one obtains positive answeres to the following questions:

- Can an integrated program of development be conducted that would be attractive enough to (a) obtain substantial private-sector financing from the very beginning? (b) be of direct benefit to more than one company, one site, or one installation, e.g. a single power plant?

- Can the upgraded coal products further secure a stable market by being produced in a variety of forms to satisfy changing fuel markets?

- Is there reason to believe that Government assistance would result in a commercial technology sooner than would be the case if only the private sector were involved?

We believe that for the ULTRA-CLEAN process, the coreect answer to the above questions is "Yes".

2 The ULTRA-CLEAN process

2.1 Description

ULTRA-CLEAN is designed to produce a zero-ash coal from medium or high-ash bituminous feed material. Central to the technology (See Figure 1) is a chemical extractant that solubilizes part of the coal in a form that can readily be reconstituted as a coal-water mixture which is free of ash and pyritic sulfur, which requires no additives to maintain stability when carried in a pipeline, and which has no abrasive properties owing to its freedom from mineral matter.

ULTRA-CLEAN PROCESS SCHEMATIC

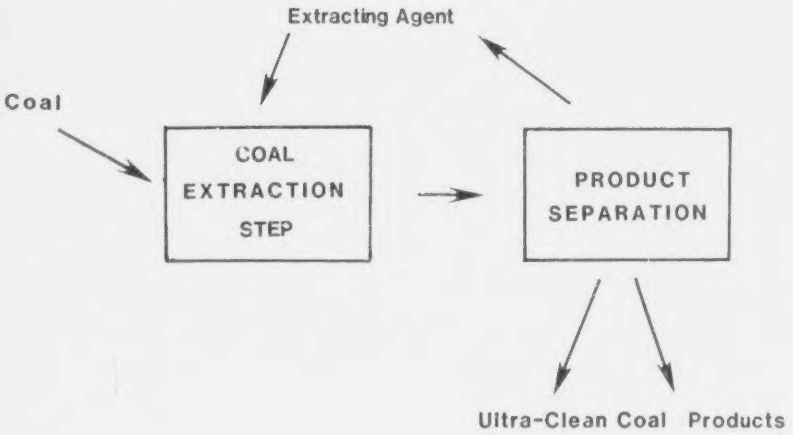


Figure 1

The solid material remaining behind after chemical extraction is further dispersed using a very low-energy mechanical means. Ash is removed from this material using the same methods as ordinarily used for micronized coal. This material may be (a) dried and used as a low-to-zero ash pulverized coal, or (b) pelletized using a small amount of extracted coal as a binder and sold as a premium stoker fuel.

2.2 Technical Advantages

2.2.1 Introduction

From a technical viewpoint, the ULTRA-CLEAN process derives its advantages from its relative simplicity and from its versatility in tailoring the form of the coal produced to the product marketplace. To illustrate, consider ULTRA-CLEAN in comparison to two other advanced technologies, namely coal-water mixtures as "conventionally" prepared, and coal liquifaction.

2.2.2 Vs. Conventional CWM

First, consider the comparison between "conventional" CWM at its present commercial state and ULTRA-CLEAN (Figure 2). The major production costs of ordinary CWM stem from the energy required to micronize (grind to a superfine size) the input coal, and the cost of the surfactants required to prevent the coal from settling. It should be noted that the $12/ton figure for the latter can escalate far beyond that amount depending on the surface area of the micronized input. To hold this cost within bounds, some coal quality is usually sacrificed, resulting in a conventional CWM product that conatins about 3% ash. At times the cleanup step is omitted entirely, thus producing the original starting coal.

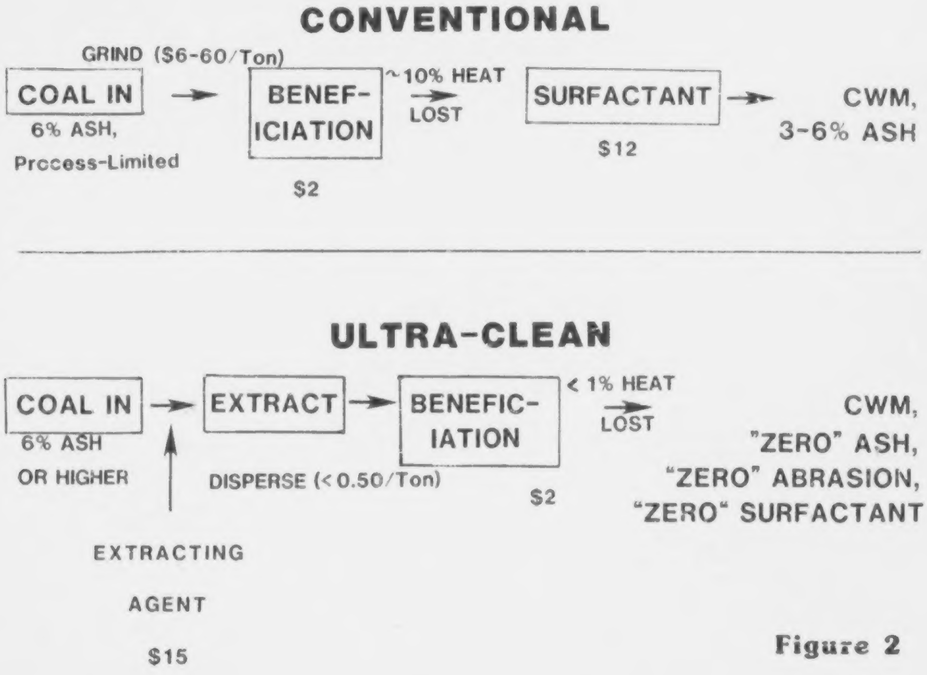

CONVENTIONAL
GRIND ($6-60/Ton)
COAL IN
6% ASH,
Process-Limited
BENEF-ICIATION
$2
~10% HEAT LOST
SURFACTANT
$12
CWM, 3-6% ASH
ULTRA-CLEAN
COAL IN
6% ASH OR HIGHER
EXTRACT
DISPERSE (< 0.50/Ton)
BENEFIC-IATION
$2
< 1% HEAT LOST
CWM, "ZERO" ASH, "ZERO" ABRASION, "ZERO" SURFACTANT
EXTRACTING AGENT
$15

Figure 2

In contrast, the ULTRA-CLEAN coal suffers no appreciable energy loss from grinding because the extraction step renders the solid material extremely fragile. Because of this advantage, a complete separation of ash from the solid material becomes feasible using ordinary methods at about $2/ton. This fact means that one has the flexibility of using the solids part of the ULTRA CLEAN coal in pelletized form as a stoker fuel or using it as an ash-free pulverized coal.

The cost of ULTRA-CLEAN extractant is more than recovered, relative to conventional CWM, by the energy saved from omitting the grinding step and by the fact that no surfactant is required to keep the extracted ULTRA-CLEAN CWM from settling. (Let me add here that we have maintained laboratory samples of the dispersed ULTRA-CLEAN material for over two years with very little settling.)

2.2.3 Vs. Coal Liquefaction

A further insight into the advantages of ULTRA-CLEAN coal results when one compares the ULTRA-CLEAN technology vs. coal liquefaction, which enjoyed some support in the heyday of the energy crisis. To be consistent, let us note that ULTRA-CLEAN produces a very high-grade CWM; ULTRA-CLEAN is NOT a liquefaction technology. The product of ULTRA-CLEAN is a high-grade coal whose actual physical form can be tailored to the needs of the marketplace, whereas coal liquefaction sought to transform the coal into a substitute for petroleum through hydrogenation. As Figure 3 implies, the ULTRA-CLEAN process offers the advantages of simplicity, flexibility in the choice of input coal, safety (because of its mild operating conditions and lack of need for hydrogen), and ease of construction. Taken together, these advantages result in the opportunity to construct and profitably operate plants even at the modest 30 tph demonstration scale proposed here.

3 Commercialization

3.1 Market for the Products

The market strategy for the short term (about 5 years post-startup) is to focus upon the CWM and the stoker coal segments. The stoker segment enjoys a strong industrial base, while the emerging CWM market will include both utility and industrial components. It should be added that diesel engines may well emerge as potent contributors to the CWM segment, and that a CWM-fired automobile was recently demonstrated at DOE's Morgantown Energy Technology Center.

Finally, the present commercial interest in ULTRA-CLEAN is based in part on the experience of Klean Coal Company and its parent organization, that the market, even though commitments remain to be obtained, is real. Once the process verification phase has produced products in sufficient quantity for customer acceptance testing, the market penetration required to support the planned output (far less than one percent of the stoker market, for example) should readily be achieved.

3.2 Production

3 2.1 Profitablity of 30-tph Plant

As can be seen from the spreadsheet of Figure 4, ULTRA-CLEAN is commercially viable in a marketplace where the aggregate selling price of its product(s) exceeds $70/ton. This condition already exists in two target markets, namely stoker coal (where prices near $100/ton are common), and CWM, where prices are now

ULTRA-CLEAN vs. LIQUEFACTION

1. PRODUCES CLEAN COAL IN MOST DESIRED FORM	1. PRODUCES HYDROGENATED FUELS
2. NO HYDROGEN	2. HYDROGENATION TECHNOLOGY REQUIRED
3. CONSTRUCTED FROM STANDARD MATERIALS	3. EXOTIC/EXPENSIVE MATERIALS
4. PROCESSES MANY DIFFERENT COALS	4. REQUIRES A SINGLE COAL
5. ATMOSPHERIC PRESSURE	5. HIGH PRESSURE
6. MILD TEMPERATURE	6.HIGH TEMPERATURE

Figure 3

YEAR	1	2	3	4	5	6	7
REVENUE (1000)	0	0	5910	6087	6270	6458	6652
COSTS (1000)							
COAL	0	0	1500	1500	1500	1500	1500
EXTRACTING AGENT	0	0	1125	1125	1170	1217	1265
POWER CONSUMPTION	0	0	0	0	0	0	0
LABOR	0	0	525	551	579	608	638
WORKING CAPITAL EXPENSE	0	0	340	395	340	306	323
MAINTENANCE @20%	0	0	307	307	307	307	307
INSURANCE @1%	0	0	48	48	48	48	48
DEPRECIATION	0	0	857	1571	762	238	380
INTEREST EXPENSE	0	0	0	0	0	0	0
SELLING & ADMINISTRATIO	150	150	150	150	150	150	150
R&D ASSESSMENT @5%	0	0	146	169	146	131	138
TOTAL COST	150	150	4996	5816	5000	4504	4749
OPERATING INCOME	(150)	(150)	914	271	1270	1954	1903
TAX EXPENSE							
STATE CORP (6%)	(9)	(9)	55	16	76	117	114
FEDERAL CORP (46%)	(69)	(69)	420	125	584	899	875
INVEST TAX CREDIT(10%)							
B&O TAX (2%)	0	0	118	122	125	129	133
SEVERENCE ($7 PER.TON)			0	0	0	0	0
PAYROLL (20%)	0	0	68	79	68	61	65
TOTAL TAXES	(78)	(78)	661	342	854	1206	1187
NET INCOME	(72)	(72)	252	(71)	416	747	716
CASH FLOW							
NET INCOME	(72)	(72)	252	(71)	441	798	792
PLUS: DEPRECIATION	0	0	857	1571	762	238	380
LESS: NET CASH OUTLAY CAP.							
CAPITAL EXPENDITURE	6550	6550					
DEBT PROCEEDS							
DEBT PRINCIPAL PAYMENT	0	0					
CASH SURPLUS(DEFICI)	(72)	(72)	1109	1500	1202	1036	1172

Figure 4

over $70/ton delivered. Further examination shows that, based on conservative assumptions, ULTRA-CLEAN turns a positive net income in the third year of operation based on a selling price of $80/ton of product. The careful reader will note that no expenses have been shown for electric power consumption. This reflects the fact that 1.5% of the product will be used on-site for process heat and electric power generation.

3.2.2 Industry Participation

Over the past two years RTGI has contacted a number of companies to obtain expressions of interest in participating in a venture to commercially produce ULTRA-CLEAN coal products. Of a hala dozen who have expressed interest, one has stated unequivocally its interest in participating in a cost-sharing effort provided that, as we expect, the process verification phase is completed as planned. This ogranization is Klean Coal Company, located in Kingwood, West Virginia. A subsidiary of the Frazee-McCall Coal Company (Baltimore, MD), Klean Coal possesses the coal marketing experience to compete in the existing marketplace, and the wherewithal to participate in the proposed project. Mr. Donald Frazee has wired a statement to this effect to us in care of Hon. Robert C. Byrd. A copy is attached to the committee handouts.

3.2.3 Time Phasing of Funding

As shown in the bar chart of Figure 5, a total of $13.1 million is sought over a period of four years, by the end of which time a thirty ton-per-hour plant will be in full operation. Approximately half of the funds represent the investment needed for final process verification and construction, the remainder for start-up and initial working capital.

Note also that most of the first year's work can be run concurrently with some tasks, such as site selection now marked for completion by the end of year two. In generating the projections of Figure 4, it was assumed that the startup will be accelerated in this manner.

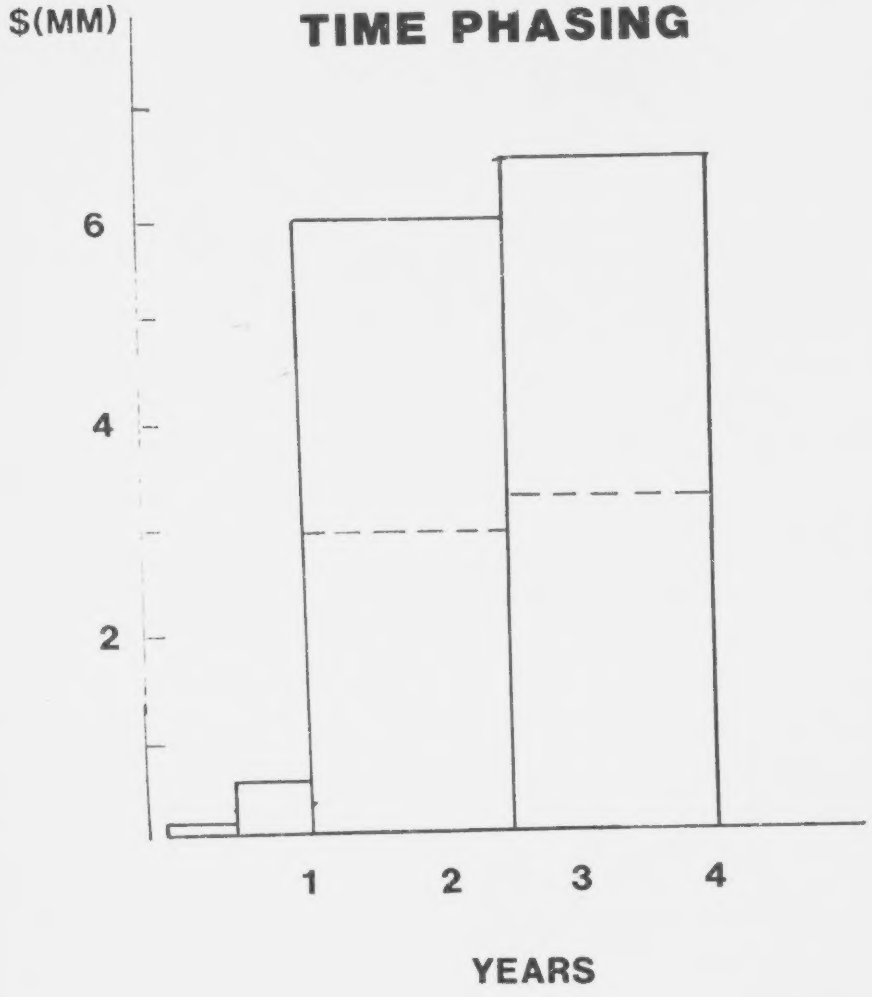


Figure 5

3.3 Potential Employment

Figure 6 shows the expected employment impact of the proposed project. At start-up, and thereafter, about ten persons are required for full operation. The remaining employment comes from the miners whose output feeds the plant, and from the transportation sector. Thus, most of the new jobs would be filled from the population residing within a few miles of the ULTRA-CLEAN plant.

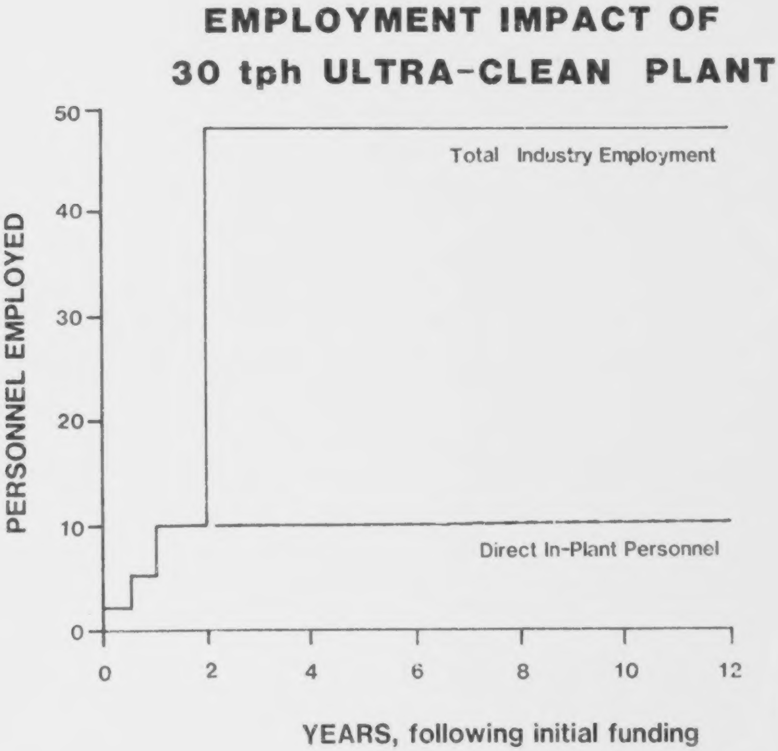


Figure 6

As the cumulative plot of Figure 7 illustrates, the economic benefit of the proposed project is such that increases in the tax base alone would exceed the Government's initial outlay in about ten years, while the new personal income generated from the project will have added over $6 million to the local economy over the first five to six years.

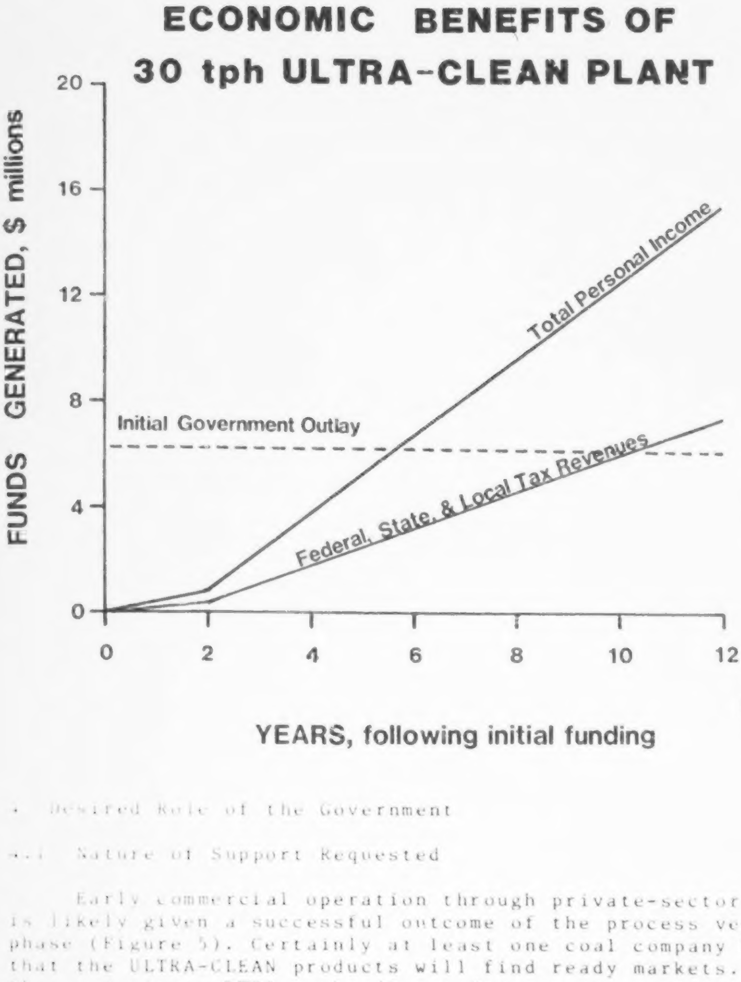


Figure 7

4. Desired Role of the Government

4.1 Nature of Support Requested

Early commercial operation through private-sector investment is likely given a successful outcome of the process verification phase (Figure 5). Certainly at least one coal company believes that the ULTRA-CLEAN products will find ready markets. Based on these premises, RTGI seeks direct Government support through the process verification phase to the extent of $500,000. Following successful completion of this phase, further support is sought such that one-half of the project cost would be borne through the private sector and one-half by the Government. Further operation and commercial expansion would be financed entirely through private capital sources. In the informational proposal originally submitted , RTGI had suggested that price supports might be necessary. Subsequent analyses and discussions with prospective investors, however, have indicated that significant market penetration by the ULTRA-CLEAN products will be possible at acceptable levels of commercial risk, without price subsidies.

4.2 Closing Remarks

As a parting note, it appears to us that commercial operation can begin from two to five years sooner if the project is funded as a single package rather than as a development contract followed by separate construction/startup financing. This contention is based on the observations that (a) the lag between the successful completion of a final development/process verificion phase and commercial operation is about this long whenever the intended end use is uncoupled from the development,

(b) this project is structured so that the process verification and 30 tph lead tasks can easily proceed in parallel, and (c) the commercial interest is present now. We solicit your support, and thank you again for the opportunity to appear before you today.

INTERSTATE LUMBER CO D FRAZEE SS
601 EAST MAIN ST
KINGWOOD WV 26537 07PM

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SENATOR ROBERT C BYRD
SENATE OFFICE BUILDING
WASHINGTON DC 20510

ATTN MR PAUL BEKOWIES
RESOURCE TECHNOLOGY GROUP INC
400 MISSISSIPPI ST
MORGANTOWN WV

GENTLEMEN:

WE HAVE LONG BEEN INTERESTED IN COAL UPGRADING THROUGH PREPARATION BENEFICATION AND REFINEMENT TIED BACK TO YIELD AND MARKET SENSITIVITY.

RECENTLY WE COMMERCIALLY LAUNCHED A HIGH-BRED SYSTEM FOR FROTH FLOATATION WHICH PRODUCES GREATER PERFORMANCE EFFICIENCY AND IS KEY TO FUTURE COAL-WATER PRODUCTION. IT IS, WE FEEL, STATE OF THE ART IN COMMERCIAL BENEFICATION.

THE PROMISE OF COAL REFINING UTILIZING THE RESOURCE TECHNOLOGY SYSTEM SHOULD HOLD UP UNDER TECHNICAL REVIEW. WE WOULD BE INTERESTED IN PARTICIPATING WITH RESOURCE TECHNOLOGY IN COMMERCIAL SCALE-UP. IN THE EVENT A COST-SHARING PROGRAM BE DEVELOPED THIS BECOMES MUCH MORE DESIRABLE.

WE HAVE THE WHEREWITHAL TO CONSTRUCT A PILOT PLAN AND IMPLEMENT COMMERCIAL UTILIZATION WITH EXISTING MARKETS SHOULD ALL THE TECHNICAL AND BUSINESS VARIABLES FALL INTO PLACE.

SINCERELY

DONALD FRAZEE
FRAZEE-MCCALL COAL CO COCAL DIVISION
601 EAST MAIN ST
KINGWOOD WV 26537
TWX 7109351211 INT LUMCO KGWD

Senator JOHNSTON. Senator Byrd, do you have any questions?

Senator BYRD. I have one perhaps. What is this coal company you referred to, at least one coal company?

Mr. BEKOWIES. Yes, sir; we have had contacts with Rochester in Pittsburgh Coal Co., United Coal Co., Frazee-McCall, and several others that are far enough back now in my memory that I don't remember which ones they were. Those are the companies which still seem to have some interest with Frazee-McCall being very actively interested at this point.

Senator BYRD. Thank you, Mr. Chairman.

Senator JOHNSTON. Thank you very much, Senator Byrd.

Mr. BEKOWIES. Thank you.

STATEMENT OF RICHARD A. KRUEGER, WISCONSIN PUBLIC SERVICE CORP.

Senator JOHNSTON. Our final witnesses today will be Mr. Richard A. Krueger and Mr. R.A. Solboe with the Wisconsin Public Service Corp.

Mr. KRUEGER. Thank you, Senator Johnson and Senator Byrd.

In the interest of time I will also present some abbreviated comments.

My name is Richard Krueger and I manage the operation of fossil fuel generating plants for Wisconsin Public Service Corp.

I appreciate having the opportunity to present this statement on behalf of my company in support of the Department of Energy's clean coal technology program.

In addition, I would like to reaffirm our statement of interest describing the retrofit of our Pullium Unit No. 6 with a Rockwell burner. If this burner system continues to be successful throughout the pilot stage testing, WPS intends to seek cost-shared funding and proceed with demonstration phase engineering.

The proposed DOE clean coal technology program is most timely and provides a partnership program that addresses the need for this Nation to further shape its energy policy and to resolve environmental concerns arising from the burning of coal.

Our Government utilities and industry must plan and work together to meet further energy requirements. Energy independence is a prime goal and can be met if coal and other energy resources, such as nuclear, are developed in an orderly manner.

Utilities and industry look to coal as an interim major fuel source and recognize that public concerns over clean air must be addressed through the scientific and political process.

The clean coal technology program will accelerate the application of advanced processes such as the Rockwell low NO_X/SO_X burner. The public should also expect the benefit of cleaner air at a lower cost as compared with present combustion methods with stack gas cleanup systems.

Through generation and fuel procurement planning, Wisconsin Public Service has reduced the level of sulfur dioxide emissions by one-third over the past 10 years while increasing electric power generation by 75 percent.

We are concerned that regulation will require further reduction of emissions. Indeed our Governor, Anthony Earl, has recently established an acid deposition review committee to recommend a course of action that will reduce emissions in the most cost-effective manner.

In the State of Wisconsin the major burden of cost will likely fall on the two largest coal users, utilities and the paper industry. The Rockwell burner is conceived as appropriate for a new generating station and retrofit of existing coal-fired boilers at about one-half the cost of stack gas scrubbers.

In our long-range generation planning we have studied a broad spectrum of new energy technologies. Of the advanced coal combustion processes evaluated, such as fluidized bed combustion and the limestone injection multistage burner, we have concluded that the Rockwell burner showed the most promise for both retrofit and future installations.

Demonstration of a retrofit burner system on an operational utility boiler entails a significant risk to a single utility both in capital expenditure and loss of generating capacity.

I suggest that the goals of energy independence and a cleaner environment can best be achieved through a partnership between industry and the public sector. Therefore, I believe it is in the national interest to provide support for the demonstration of selected emerging advanced coal combustion technologies through this proposed Federal program.

Thank you again for this opportunity.

PREPARED STATEMENT

Senator JOHNSTON. Thank you very much, Mr. Krueger. We will place your submitted statement in the record.

[The statement follows:]

STATEMENT OF RICHARD A. KRUEGER

Thank you Mr. Chairman. My name is Richard A. Krueger, I manage the operation of fossil fuel generating plants for Wisconsin Public Service Corporation. I appreciate having the opportunity to present this statement on behalf of my company in support of the Department of Energy's Clean Coal Technology Program. In addition, I would like to reaffirm our Statement of Interest describing the Retrofit of the Pulliam Unit No. 6 with a Rockwell Burner. If this burner system continues to be successful throughout the pilot stage testing, WPS intends to seek cost-shared funding and proceed with demonstration phase engineering.

The proposed DOE Clean Coal Technology Program is most timely and provides a partnership program that addresses the need for this nation to further shape its energy policy and to resolve environmental concerns arising from the burning of coal.

Why is this program and our project important to utilities, industry and the public.

- Our government, utilities and industry must plan and work together to meet future energy requirements. Energy independence is a prime goal and can be met if coal and other energy resources, such as nuclear, are developed in an orderly manner. Utilities and industry look to coal as the interim major fuel source and recognize that public concerns over clean air must be addressed through the scientific and political process. The Clean Coal Technology Program will accelerate the application of advanced processes such as the Rockwell Low NO_x/SO_x Burner.

- The public should also expect the benefit of cleaner air at a lower cost as compared with present combustion methods with stack gas cleanup systems.

Why is this project important to Wisconsin Public Service; its customers; and the State of Wisconsin.

- Through generation and fuel procurement planning, Wisconsin Public Service has reduced the level of sulfur dioxide emissions by one-third over the past ten years while increasing electric power generation by seventy-five percent. We are concerned that regulation will require further reduction of emissions. Indeed our Governor, Anthony Earl has recently established an Acid Deposition Review Committee to recommend a course of action that will reduce emissions in the most cost-effective manner. In the State of Wisconsin, the major burden and cost will likely fall on the two largest coal users, the utilities and the paper industry.

- The Rockwell Burner is conceived as appropriate for new generating stations and retrofit of existing coal fired boilers at about one-half the cost of stack gas scrubbers.

Why the Rockwell Burner technology was chosen for this retrofit program.

- In our long-range generation planning, we have studied a broad spectrum of new energy technologies. Of the advanced coal combustion processes evaluated, such as fluidized bed combustion and the limestone injection multi-state burner (LIMB), we have concluded that the Rockwell Burner showed the most promise for both retrofit and future installations.

Why the development of emerging technology requires Federal support.

- Demonstration of a retrofit burner system on an operational utility boiler entails a significant risk to a single utility, both in capital expenditure and loss of generating capacity. I suggest that the goals of energy independence and a cleaner environment can be best achieved through a partnership between industry and the public. Therefore, I believe it is in the national interest to provide support for the demonstration of selected emerging advanced coal combustion technologies through this proposed Federal program.

Thank you again for this opportunity. I am prepared to answer any questions that you might have.

References

Attachment 1 - Wisconsin Public Service Corporation
General Information - Company and Project

Attachment 2 - Retrofit Program Schedule
Rockwell Low NO_x - SO_x Burner
Pulliam Unit No. 6

Attachment 3 - Statement of Rockwell International Corporation

Attachment 4 - Copy of Statement by Wisconsin's Governor Anthony Earl

Attachment 1

General

Wisconsin Public Service is a combined electric and gas utility serving customers in Northeastern Wisconsin and a small section of Michigan's upper peninsula. Our generation fuel mix in 1984 was 68.1% coal; 19.7% nuclear; 4.8% hydro, and 0.30% gas and oil. Through generation and fuel procurement planning the Company has carried out an effective sulfur dioxide reduction program over the past ten years. Sulfur dioxide emissions have been reduced from 96,200 tons in 1973 to 63,975 tons in 1984. At the same time total electric power generation increased by seventy five percent. This significant reduction was accomplished by an early application of a then emerging nuclear technology along with a shift to low-sulfur coals from both mid-western and western coal sources.

The Need

Long-range strategic planning would indicate that these significant steps may not be sufficient to meet todays concern over acidic emissions. Federal and state legislation is being proposed that would impose emission control levels far below that required to maintain ambient air quality standards for protection of human health. The State of Wisconsin through actions of its legislative and executive branches of government has taken steps to "cap" emissions and to develop further short and long-term action goals. On May 1, 1985, our Governor Anthony Earl released a policy statement on this issue and charged a task force of regulatory and industry representatives to set the action levels for legislative rule making. The burden will fall not only on the utilities but also the paper industry, which in Wisconsin is the second largest coal user and largest single industrial employer.

The electric utility industry has had more than fifteen years of experience with the clean-up of stack gas emissions. High capital, operating and maintenance costs, the problem of solid and liquid waste disposal and retrofit problems with the older generating units are negative factors in the use of scrubbers for SO_2 emission reduction.

The DOE Clean Coal Technology program recognizes the need to bring emerging coal combustion technology into commercial application. This program provides a common sense partnership in the interest of strengthening our national energy policy, full utilization of both our high and low sulfur coal resources and the promise of stabilizing electric rates.

The Rockwell Low No_x - So_x Burner

The initial work on the Rockwell Burner was begun in 1979 and the combined private funding of Rockwell International Corporation and a consortium of utilities has advanced the development and testing program.

- The investment of more than five million dollars in private funds by Rockwell International Corporation, a consortium of four U.S. utilities and Transalta, a Canadian utility, together with the Canadian Electric Association has brought this technology from the laboratory bench-model research stage to the scheduled completion of a full pilot-scale burner test program in mid 1985. Another eight million dollars of funding by consortium members together with a significant contribution by the Alberta Provincial Government is planned for demonstration of a utility sized burner in the 1986-1988 period.
- Other full-scale programs will be necessary to fully demonstrate and commercialize the burner. The combined benefits of both So_2 and No_x reduction, once demonstrated on a utility boiler scale and recognized by emission level rulemaking, will provide a significant economic advantage.
- A retrofit demonstration of the Rockwell Burner's ability to meet emission limits will provide a needed alternate energy conversion process as we plan for capacity additions in the late 1990's.

Wisconsin Public Service Pulliam No. 6 Demonstration

The proposed retrofit demonstration of the Rockwell Burner on our pulverized coal fired Pulliam No. 6 boiler does not offer the fuel cost savings as featured in Houston Lighting and Power's conversion of the Parish Units 1 and 2 from gas/oil firing to coal. From our evaluation, we believe the potential benefits to be:

- Preliminary engineering estimates indicate that the installation of a Rockwell burner system could be accomplished on an existing coal fired unit at about one-half the cost of a flue gas scrubbing system.
- The burner is compatible with existing slag and ash removal systems. Up to 85% slag or ash is retained within the burner, with flexibility to decrease depending on design requirements. This allows retrofit conversion without a need for major precipitation modifications for particulate control. There is a need to demonstrate if flue gas conditioning is required to improve precipitator performance.
- All solid wastes are in the form of slag or dry fly ash and therefore compatible with existing handling facilities and land fill practices. The slag material itself has a market potential and the residual calcium oxide collected with the fly ash will enhance the pozzalonic characteristics of the ash and possibly increase the use as a partial replacement for portland cement in concrete.

The planning for the retrofit of the Rockwell Burner on Pulliam No. 6 is still in the early planning stage. We have worked with the Bechtel Power Corporation to establish conceptual feasibility and with Rockwell International Corporation on preliminary burner design requirements. Further studies and detailed design engineering will be required before preparing a procurement document covering a shared demonstration project under the proposed DOE program.

Schedule

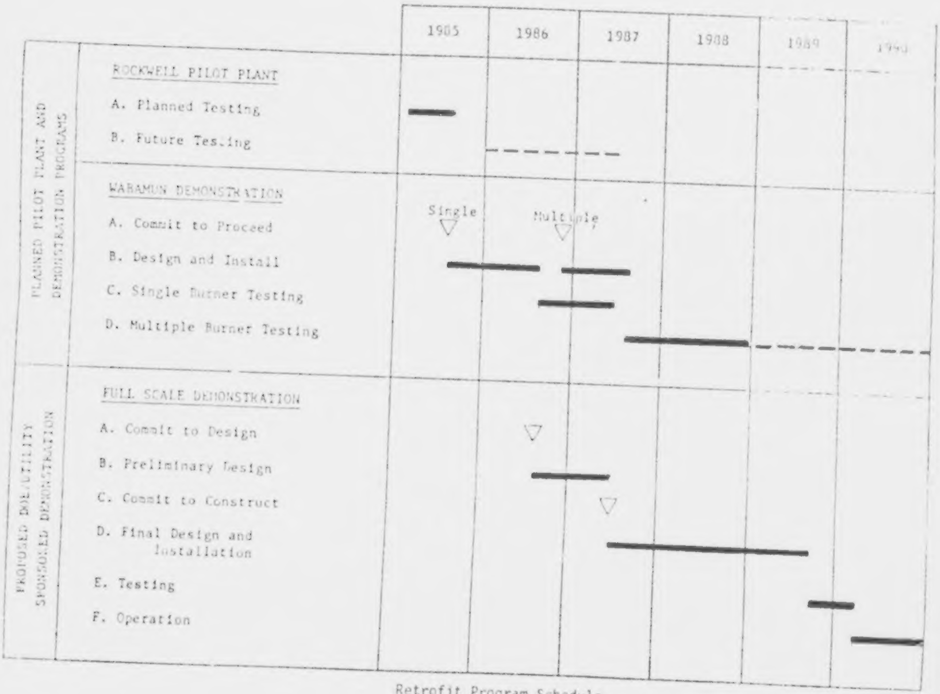
A proposed schedule developed for the Pulliam No. 6 full-scale retrofit Rockwell Burner demonstration is attached and shows a commitment to Phase I design in mid - 1986; Phase II commitment and start of construction in mid - 1987; completion mid - 1989; Phase III - startup and testing in late 1989 and full operational readiness in early 1990.

Demonstration Program Funding

DOE support for the proposed conversion of Pulliam Unit 6 to the Rockwell Burner system would provide the framework for the advancement of this promising advanced combustion technology. A phased approach in parallel with the scheduled Rockwell, Utility and Canadian sponsored prototype burner demonstration would assure the orderly development of system design and commitment of costs based on sound engineering.

For the utility alone, the risk involved in demonstrating this new technology would be substantial. Our best estimate at this time is that the project cost will be about twelve million dollars. In addition, our generating costs could increase by three to five million dollars to cover the lost generation from this unit over the construction period.

Attachment 2



Retrofit Program Schedule
Rockwell Low NO_x - SO_x Burner
Pulliam Unit No. 6

Attachment 3

THE ROCKWELL LOW NO_x/SO_x BURNER

For the past 6 years Rockwell International has been developing a unique process and burner for clean combustion of coal. The underlying theory indicates that virtually complete elimination of both SO_2 and NO_x emissions from coal combustion is possible. Test results to date have largely verified this potential, with some cases showing more than 95% reduction of both air pollutants from uncontrolled levels. In addition, removal of a major fraction of the coal slag and flyash in the burner makes possible retrofit to coal of plants originally designed for gas or oil fuels. Installed costs of the burner system have been estimated to be about 10 to 20% of those for flue gas cleaning systems providing similar degrees of SO_2 and NO_x control.

Five million dollars in private funds have been invested in development of this burner to date. Initially, all concepts were conceived and verified experimentally at Rockwell with Rockwell funding. Subsequent pilot-scale development h been guided and supported by a consortium of U.S. and Canadian utilities and the Canadian Electrical Association. Although U.S. governmental agencies and utility associations have been kept apprised of progress, program support has not been solicited nor obtained, to date, from these sources. Patents have been issued or allowed on all aspects of the processes.

Completion of pilot-scale development is scheduled for 1985. A full-scale burner demonstration on an operating electric utility boiler near Edmonton, Canada, is planned for the 1986-1988 period at an estimated cost of $8 million (U.S.). Funding will be provided by U.S. and Canadian utility companies and by the Alberta Provincial Government. This demonstration will involve the local western Canadian low-sulfur coal. To fully demonstrate and commercialize the burner, other full-scale programs will be necessary. It will be necessary to demonstrate conversion of boilers designed for gas and oil fuels to coal and to show effective performance with high-sulfur eastern coals.

The Rockwell burner is the only concept at a comparable stage of development that offers low-cost, effective control of both SO_2 and NO_x air pollution emissions from coal combustion plus the capability to retrofit boilers designed for gas and oil fuels to coal. To have a significant impact on the acid rain problem within the next decade, it will be necessary to retrofit existing utility boilers and a large number of industrial combustion devices for increased air pollution control. In addition, it appears that the Rockwell burner will be capable of total SO_2 and NO_x control to levels comparable to or below those of oil- and gas-fired plants, thereby allowing conversion of these plants to low-cost, domestic coal.

In addition, costs of such conversions with the Rockwell burner are expected to be significantly lower than those of other currently available systems, providing the nation with cleaner air, acid rain reduction, and increased use of domestic coal at a reasonable cost.

Attachment 4

STATEMENT BY GOV. ANTHONY EARL

ESTABLISHING ACID DEPOSITION COMMITTEE

Last year, Wisconsin took its first step toward fighting acid rain when the Legislature passed, and I signed, S.B. 398, which placed a cap on sulfur dioxide emissions in Wisconsin.

To prevent further damage and to take the next step in halting acid rain, I am creating an Acid Deposition Review Committee, which will develop a strategy to decrease the emissions which cause acid precipitation.

Since I signed S.B. 398, additional research has linked acid rain to the acidification of some lakes in northeastern Wisconsin. Greater damage will be done if sulfur dioxide and nitrogen oxide emission levels are not reduced.

The acidification of our lakes and damage to our other natural resources would harm an irreplaceable resource for generations to come, and would hurt our recreation, tourism and forest industries.

I have appointed Department of Natural Resources Secretary C.D. Besadny, Wisconsin Power & Light Vice-President William Keepers, and Public Service Commissioner Mary Lou Munts to the committee. Commissioner Munts will chair the committee, which was established in S.B. 398.

Charge to the Committee

I have directed the committee to recommend a course of action that will adequately protect the state's resources and allow the maximum amount of flexibility for the state's utilities and industries to reduce emissions in the most cost-effective manner.

I expect the committee to obtain the broadest possible public input into its deliberations. It will have wide discretion in formulating its proposals.

The committee's recommendations will be presented in two parts:

1. The committee will establish a long-term reduction goal and identify short-term actions the state may take to reduce the threat of acid rain damage. These recommendations will be submitted to the Legislature in September 1985.

The committee will recommend a reduction goal for pollutants that contribute to acid rain in Wisconsin and will focus on reasonable steps for the state to take to reduce the risk of acid rain before a state acid rain policy is fully implemented.

I have asked the committee to consider the following:

•What effect will the new DNR ambient air quality rule for sulphur dioxide have on statewide emission levels?

•Should the present "cap" on emission levels established by S.B. 398 be reduced to reflect the state's current emission levels?

•Should the present state cap on sulfur dioxide emission levels, which currently applies to major utilities, be extended to non-utility emitters? If so, to what extent and under what circumstances?

•Should other pollutants that contribute to acid deposition, such as nitrogen oxides, be incorporated into a statewide cap on emission levels? If so, at what levels?

2. The committee will recommend specific measures for achieving a long-term solution to the state's acid rain problem. These recommendations are to be presented in February 1986.

In developing a long-term reduction strategy, the committee will consider various emission reduction scenarios and recommend a strategy for meeting the long-term emission reduction goal. The analysis of the impact of various emission efforts will consider:

•What emissions and emitters should be involved in reduction strategies and to what degree.

•Appropriate time periods for phasing in reductions.

•Control technology options.

•The costs of various options.

•What funding mechanisms, if any, should be provided.

As a starting point for the development of a long-term strategy for reducing emissions, the committee will analyze the impact on Wisconsin of U.S. Senate Bill 503, which is sponsored by Senators Proxmire and Humphrey. The federal legislation would establish national goals for reducing emissions which contribute to acid deposition.

Senator JOHNSTON. Senator Byrd, I might say, has been the father of this program. Your faith in this $750 million program I think has been vindicated by the testimony today.

We have heard from a large number of witnesses, all of whom who have very interesting and very exciting proposals for us to consider. This indicates that there is a lot of ferment out in the private sector with interesting, and I think exciting, ideas as to how to utilize coal in the cleanest way possible.

We are going to have to evaluate all of these. We don't know precisely how we are going to choose these, whether it will be all by the Department of Energy or by us or a mix of those, but we have a very interesting smorgasbord of technologies out there to look at.

I wish we had more than the $750 million because it is obvious as we look at the costs that various people would like that we cannot fund everything at the full amount that everyone would like.

But there is no doubt in my mind that we have vindicated this program by the testimony today, Senator Byrd.

Do you have any questions of Mr. Krueger?

Senator BYRD. No; I have no questions, but I thank you, Mr. Chairman, for your remarks. It has been a very useful day and an interesting one as we have listened to these various witnesses.

And I want to say that our chairman, Senator Johnston, has certainly by his understanding and knowledge and efforts aided me and others who have been extremely interested in this appropriation, and I am sure that whatever successes may evolve from it in time will be to a very considerable extent attributable to the steadfast support that Senator Johnston has given.

I thank you, Senator Johnston, and I thank this witness and all witnesses.

Senator JOHNSTON. Thank you, Senator Byrd, for those generous remarks. I stand somewhere in the line well behind you and your effectiveness in support of coal.

Senator BYRD. Thank you.

Senator JOHNSTON. Thank you very much to all the witnesses. This has been a very good day of testimony.

ADDITIONAL PREPARED STATEMENTS

The record will remain open for 2 weeks in which testimony can be submitted for inclusion in the record.

[The statements follow:]

STATEMENT OF THE AMERICAN GAS ASSOCIATION

The American Gas Association (A.G.A.) is a national trade association comprising nearly 300 natural gas distribution and transmission companies serving more than 160 million consumers in all 50 states. Collectively, these companies account for nearly 85 percent of the nation's total annual gas utility sales. A.G.A. is pleased to submit this statement on emerging clean coal technologies. Although we are not in a position to propose specific projects, we would like to be certain that this Subcommittee is aware of new technologies that could be funded from the Clean Coal Technology Reserve and that either: (a) combine the use of natural gas with coal to reduce emissions; or (b) otherwise help to utilize coal in a more environmentally attractive manner.

In its Report to Congress on Emerging Clean Coal Technologies, the Department of Energy (DOE) recommended that the Federal Government should not provide incentives (i.e., loan guarantees, cost sharing, etc.) for emerging clean coal technologies. The DOE determined that free market forces will "select and commercialize the most efficient and environmentally-effective technologies for processing and using coal . . . ." The DOE further stated that Federal incentives would only interfere with the operation of market forces and could affect adversely the development of nonsubsidized technologies.

A.G.A. does not believe that Federal incentives would interfere with the commercialization of these technologies. Although free market forces will ultimately determine which of the emerging coal technologies will be best suited for commercialization, substantial expenditures will be necessary to develop these technologies prior to commercialization. Federal incentives are necessary to develop and demonstrate the potential for these new technologies: i.e., to bring them to the point at which the market can choose between them.

As a related point, regulatory policies often constrain rate-regulated gas and electric utilities from gambling on a promising new technology. These regulated companies frequently need to share risks with governmental agencies until the new technology is proven through experience with pioneer plants.

A.G.A. also disagrees with the DOE's suggestion that past experiences with Federal assistance in the development of new fossil technologies has been completely unsuccessful. A recent and prominent example is the Cool Water plant in Daggett, California. This small-scale powerplant produces on-site medium BTU coal gas at a rate equivalent of 1000 barrels of crude oil per day for use in combined cycle power generation. Although Federally assisted, the project has reportedly been so successful that it is now emerging as a possible model for large-scale private sector efforts.

SELECT GAS USE

Select gas use (select use) refers to a relatively new concept in fuel combustion: the burning of natural gas with less environmentally attractive fuels in the same or separate combustion units for environmental control purposes. Natural gas combustion emits virtually no sulfur dioxide or particulate matter, and far less nitrogen oxides, nonmethane hydrocarbons and carbon monoxide than other fossil fuels.

As one option, select use may involve the combustion of gas and another fuel (most often coal) in the same combustion unit as a fuel mixture. A more common approach, and less difficult from an engineering perspective, involves the concurrent combustion of gas and some other fuel in separate combustion units, with subsequent averaging of the emissions from the two sources. This latter approach (termed a bubble), when approved by the Environmental Protection Agency (EPA), may be used to meet the air quality guidelines of a State Implementation Plan (SIP). A third approach (not currently sanctioned by the EPA) entails the seasonal substitution of gas for other fuels. Coal or high-sulfur oil could be burned for a portion of the year and natural gas could be burned for the remaining portion of the year to offset the coal- or oil-derived emissions.

These concepts have advanced from the theoretical stage to the implementation stage. More than two dozen select use applications have been implemented, including four cases of concurrent combustion in a single unit. Furthermore, at least four major institutions are conducting additional research into the simultaneous combustion of gas and other fuels in a single unit. The research relating to gas and coal combustion is focused in three areas: (1) reburn technology to reduce NO_x and SO_x emissions; (2) gas use to assist the burning of coal-water mixtures; and (3) gas use to assist oil-to-coal conversions (utilizing either coal-water or dry coal).

(1) Reburn Technology. Reburn is a post-combustion pollution control method that can be used to reduce NO_x levels found in the combustion products of coal-fired electric utility or industrial boilers. Natural gas (or another fuel) is injected into the exhaust from a coal-fired boiler, creating a fuel-rich zone in which the NO_x reacts and produces free nitrogen; air is then added to complete the combustion process. Preliminary testing indicates the reburn process using gas could easily reduce NO_2 emissions by 50 percent. The Gas Research Institute and the Energy and Environmental Research Corporation are currently conducting research on the reburn process to determine: (a) how close the reburning fuel should be relative to the combustion zone; and (b) how much time should be allowed for reburning before air is injected into the process.

(2) Assisting Coal-Water Mixtures. Coal-water mixtures were originally proposed as a way to displace foreign oil with domestic coal. More recently, however, it has become evident that coal-water mixtures may appeal to those who use coal but want to avoid the environmental impact associated with the direct combustion of dry coal. One reason for this expanded market for coal-water mixtures is that developers of such mixtures have been developing innovative methods for cleaning the coal before it is integrated into a mixture. Unfortunately, the use of coal-water mixtures may lead to substantial deratings, slagging, fouling, flame instability and other problems. Recent gas industry sponsored research indicates, however, that cofiring coal-water mixtures with natural gas offers an economic and environmentally attractive solution to these problems.

(3) Oil to Coal Conversions. In addition to the use of coal-water mixtures, economically and environmentally advantageous conversions of oil-fired boilers to coal have been proposed using a precombustor/ash separator unit. A research team at the Unversity of Florida is currently using natural gas to assist a full scale oil to coal conversion.

COAL GASIFICATION

Gasified coal can be combusted without the adverse environmental impact associated with direct combustion of pulverized coal. A coal gasification plant gasifying western coal produces from 5 to 58 percent of the air pollutants emitted by a coal-fired electricity generation plant with scrubbers. Furthermore, a coal gasification plant emits only 40 percent of the solid wastes produced by a coal-fired electricity generation plant.

Funds from the Clean Coal Technology Reserve could be used to promote second- and third-generation gasification processes. We view as particularly promising the U-Gas technology (which was developed by the Institute of Gas Technology and would have been demonstrated commercially if the Memphis onsite medium Btu coal gas project had received Federal assistance and become operational); the Kellogg-Rust Westinghouse (KRW) technology (which is currently being utilized at a Pennsylvania test facility that receives both industry and government support); and any other technology which entails ash agglomerating fluidized bed gasification.

PROJECT SELECTION PROCESS

The Environmental Policy Institute has suggested that funding recommendations for specific clean coal projects should be determined by the DOE, EPA, National Coal Council (NCC) and Electric Power Research Institute (EPRI). A.G.A. strenuously opposes the selection of coal projects by such an exclusive group of organizations. The NCC and EPRI represent narrowly focused interests whose primary research concerns may not encompass the vast array of clean coal technologies. For example, EPRI is concerned primarily with the development of coal technologies that can be used to generate electricity. Although we support clean coal research for electricity generation, we believe that clean coal research for purposes other than electricity generation would also serve the public interest. Research on select use and coal gasification would result in the development of both industrial and electric generation uses for coal that offer significant environmental benefits.

A.G.A. strongly recommends that decisions on specific coal projects be made by the appropriate government agencies and a broad-based consortium of energy research organizations representing all of the segments of the energy research community that are interested in clean coal research. A diverse group of organizations could determine by consensus the coal research that would most benefit the public.

CONCLUSION

A.G.A. believes that select gas use and advanced-generation coal gasification offer the potential for significant advances that will permit coal to be used in a clean, environmentally sound and cost-effective manner. We also believe that the process for selecting coal projects should reflect the consensus of the energy research community and the government on the coal research projects that would be in the public interest.

Letter From J.B. Cottingham, Manager, Domestic Business Development, Bechtel Power Corp.

May 13, 1985

Senate Committee on Appropriations
S.D. 114
U.S. SENATE
Washington, D.C. 20510

Attention: Mr. Jeff Celik

Dear Mr. Celik:

Bechtel Power Corporation would like to submit the attached written testimony for the record for the Interior Subcommittee of the Senate Committee on Appropriations in support of Emerging Clean Coal Technologies. We believe the time is right to demonstrate a hot clean coal gas process by converting and existing oil/gas fired utility boiler to burn hot coal gas.

Very truly yours,

JB Cottingham

J. B. Cottingham
Manager,
Domestic Business Development

Statement of J.B. Cottingham

Bechtel Power Corporation has submitted a proposal, in response to DOE's Emerging Clean Coal Technologies solicitation, to demonstrate a hot clean coal gas process by converting an existing oil/gas fired utility boiler to hot coal gas. This written testimony is submitted to the Congress to address the benefits of conducting the proposed demonstration.

Why the Utility Industry Needs Clean Coal Technologies

The utility industry is currently running at a very low reserve margin. It has been estimated that, nationwide, the current available reserve is only 3 to 6 percent. This margin is expected to be exceeded in the early 90s. The utility industry is facing difficult decisions in determining what type of power plants should be planned. The uncertain price and availability of foreign oil, the uncertain regulatory climate and escalating construction costs and schedules for nuclear power, and the prohibition against burning natural gas by the Fuel Use Act have forced the utilities to avoid these fuel options. The sole remaining significant and secure energy option is U.S. coal which cannot be burned without extensive pollution control.

If U.S. coal is to be the only significant new energy source in the production of electricity for the forseeable future, the development of advanced sulfur removal technology should be encouraged since the performance of current technologies is less than optimum. The oil and gas industry was the main driving force in the development of clean coal-based gas. Their efforts have resulted in several clean coal technologies such as Texaco, Shell, British Gas Corp/Lurgi coal gasification processes. However, the rapidly changing energy market has resulted in decreased interest in synfuel development by the oil and gas industry.

There are few incentives for the utilities to take risks in demonstrating new technologies. Utilities generally cannot recover their investment in risk ventures which fail to perform as expected. Furthermore, only 20 states allow any R&D costs to be included in the rate bases. The federal government's assistance in sharing some risks in emerging clean coal technology will be beneficial to all utility rate payers if the program results in advances in coal technology.

Bechtel's Demonstration Plant Is Consistent With DOE's Goals

The Department of Energy has a coal gas stream contaminant control program. The primary objective of the program is to research very advanced cleanup concepts for removing sulfur bearing components and other contaminants in coal derived gas. The clean coal derived gas will then be used in gas turbines and fuel cells for power generation. The DOE supported projects, however, are limited to bench or pilot scale systems.

Bechtel's demonstration project will employ coal gasification and hot gas cleanup for the removal of sulfur and particulates from coal gas. The primary goal of this project is to demonstrate the economics of substituting oil with hot coal gas in existing plants. The hot coal gas will be manufactured from a coal gasifier and purified by a unique hot gas cleanup process. There is more than 100,000 MWe of oil based power generating capacity in the United States. These units are being used as peaking units or running at very low capacity factors. Some units have been mothballed due to high oil prices. Bechtel believes that retrofitting these oil fired units is a cost effective and environmentally safe way to utilize U. S. coal resources. The demonstration is consistent with DOE's goal in the gas contaminant control program. The clean coal gas produced from the proposed demonstration plant is expected to be suitable for consumption in gas turbines. With an additional desulfurization unit such as the "zinc-ferrite" process being developed by DOE, the system may even be capable of producing coal gas suitable for future fuel cell applications. If the demonstration is carried out, the results from this project will be expected to assist DOE in reaching its goals in the gas stream contaminant control program more rapidly.

Commercialization Status

The proposed coal gasification with hot gas cleanup process for manufacturing hot coal gas is ready for demonstration at the present time. The coal gasifier will be one of the several commercial gasifiers available. The particulate removal device has been commercialized in the oil industry. The hot desulfurization process has been thoroughly tested in a large scale pilot plant. The scale up parameters from the pilot plant to a 1000 tpd coal feed plant can be confidently calculated.

Economic Benefits

The Department of Energy has estimated that coal gasification with hot gas cleanup would cost approximately 25 percent less than coal gasification with conventional cold gas cleanup technology. Bechtel estimates that existing oil-fired plants can be retrofitted at a cost which can be quickly amortized by the fuel savings.

Financial Support

The calculated project economics as presented in the proposal show that the project is economically sound if the oil price is at the present price of $28 per barrel. Since oil prices fluctuate, a federal price guarantee would provide incentives for the project owners to take the risks associated with the demonstration. In return for the assistance, the project owners agree to share profits with the Government should oil prices rise above a predetermined level.

Summary

The nation's economic and environmental health will be affected by the future decisions of our electric utilities. Both are being threatened today by the lack of an appropriate coal burning technology which is both cost effective, and without significant environmental impact and technical risks. Bechtel's proposed demonstration plant has as its objectives:

- The production of a clean coal-based fuel gas at a scale which can be retrofitted into existing plants.
- The demonstration of a technology without acid rain implications.
- Development of an "appropriate technology", i.e., one which the electrical utilities may implement confidently in the near term, and which will avoid a potential near term shortage while holding the promise for mating to future technologies.
- The demonstration of a technology which will make effective use of existing invested capital of electric utilities.

STATEMENT OF GERALD T. PETERSEN, VICE PRESIDENT AND GENERAL MANAGER, ALLIS-CHALMERS COAL GAS CORP.

Mr. Chairman and members of the Subcommittee. My name is Gerald T. Petersen and I am Vice-President and General Manager of the Allis-Chalmers Coal Gas Corporation. As an executive of a major corporation which has managed the investment of nearly $200 million on the development and commercialization of clean-coal fuels for over fifteen years, I welcome this opportunity to comment on the need and justification for the federal government to support the commercialization of clean coal technologies.

In the early 1970's Allis- Chalmers began to look for ways to utilize our proprietary kiln technology to advance our commercial prospects and to address national needs. We have over 100 years of commercial experience with kiln systems, having built more than 900 kilns on a wide variety of pyro-processing operations. We were interested in the possibility of using this technology to convert high sulfur coal into an energy resource for commercial applications in an environmentally acceptable manner.

The 1973 oil supply disruption and subsequent scramble by large oil users such as utilities to line up alternative energy sources confirmed our belief that a significant potential market existed for low BTU gas. We believed then, and continue to believe today, that our kiln technology could be used to provide low BTU gas to that market. In fact sixteen utilities, over the period of 1976 to 1980 contributed more than $11 million to fund technology research and feasibility assessment programs focusing on this application of our kiln technology to producing this synthetic fuel from high sulfur coal. As a consequence of this work, a decision was made in 1980 to build the KILnGAS Commercial Module (KCM) demonstration plant.

We at Allis-Chalmers and the utilities participating in the project are pleased that this joint effort has produced the first operating synthetic fuels plant using the vast resources of eastern basin high sulfur coal to produce clean energy. In and of itself, this achievement has national significance. This achievement results from the investment of $116 million by Allis-Chalmers, $50 million by our twelve utility partners, $21 million by the State of Illinois and $6 million from the Electric Power Research Institute.

During 1984, the initial phase of the KILnGAS demonstration program was successfully completed. Four major test campaigns, including 149 operating days, were conducted. Over the year, 17,000 tons of high sulfur Illinois coal were processed. Effective environmental controls were verified by the issuance of the air emission permit in June 1984. During the 4th quarter, a 60-day demonstration run was conducted meeting essentially all of its objectives.

The program plan for 1985 involves plant modifications and additional operating experience aimed at reaching higher levels of both performance and availability. The 1985 plan was developed in consultation with the Department of Energy following the action of the Congress to provide $7.375 million in operating assistance to the project (on a 50%/50% matching basis) for this period. The initial program plan submitted to the respective funding participants called for the plant to start up in late June, 1985. Funding commitments totalling $19.1 million were obtained, including the $7.375 from DOE.

During the first quarter of 1985, the President submitted his FY 1986 budget which included a deferral of FY 1985 funds for this project. This deferral has caused considerable delay and has necessitated a revision in the program plan. Despite this deferral, all other funding participants have continued to support the program until the deferral of the DOE funds is resolved. The House Interior Appropriations Subcommittee has reported a denial of the deferral and it will be considered soon by the full House Appropriations Committee as part of the FY 1985 Supplemental Appropriations bill.

If the deferral issue can be resolved soon in favor of the project, full funding of the remainder of the 1985 program will be possible. It will permit us to recall the plant operating team, allow us to make necessary modifications to the plant to achieve the desired power level of performance and availability and allow us to resume formal operation of the plant by September 1985. The program plan calls for operation of the plant for 1500 hours during the remainder of the calendar year, 1985.

Operational plans for 1986 call for continued extensive operation of the KCM facility. It is our objective during this period to accumulate reliability, availability and maintainability (RAM) data necessary to support commercial sales of the technology. Funding participants have given provisional approval to continued support for this program.

Mr. Chairman, we at Allis-Chalmers, and speaking on behalf of the other funding participants in this project, including the utilities, the State of Illinois and EPRI, are very appreciative of the decision you and the members of this Subcommittee, and the Congress, made last year to provide $7.35 million to support the operation of this plant. You will note that we had originally requested $7.5 million in matching funds from the federal government. Since the Congress acted last fall, participants in the project have made additional contributions and for 1985, the federal share instead of being 50% is actually less than 40%. And while it has become clear over recent months that the timing requirements of the marketplace make it necessary to spend more money on operations in FY 1986, it is pleasing to us that funding participants are willing to make additional contributions so that the federal share is still less than 50% of the total cost of operating the facility during that period.

Mr. Chairman, I cannot think of a more pertinent example to illustrate why the Clean Coal Technology Program is the right program coming along at exactly the right time. If the example of KILnGAS continues to be a success, as we believe it will, the utility and large energy user marketplace will have a second demonstrated clean coal technology to evaluate for use in a particular system. Coupled with the Cool Water project in California, the Congress should take great pride in the slow but steady development of this program. We believe that prospective vendors and technology developers and users have demonstrated that they will make large financial commitments to bring these technologies to commercial application. That is the real test. We at Allis-Chalmers have been pleased with the continuing support for our program. As long as the Congress selects only those projects which demonstrate they can be funded with significant amounts of private funds and the projects are projects that have a significant application in the marketplace, we believe that the program will be responsible and a complete success. We encourage you strongly to continue in the direction that you have begun.

LETTER FROM WALTER M. VANNOY, PRESIDENT AND CHIEF OPERATING OFFICER, BABCOCK & WILCOX

May 16, 1985

The Honorable James A. McClure
Chairman, Interior Subcommittee of
Senate Appropriations Committee
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On behalf of The Babcock & Wilcox Company, I am pleased to submit this letter for the record, expressing our views on the necessity of U. S. Government support for timely commercial demonstrations of the various emerging Clean Coal Technologies.

B&W's experience with coal and clean coal technology dates back to our beginning in 1866. We are proud of our continuing status as the world's most experienced company for coal technology relative to coal combustion, preparation and cleanup. Over 85 percent of the coal consumed in the U.S.A. is done so as boiler combustion fuel, and almost half of that is in boilers designed and built by B&W. We have established as a first priority those efforts necessary to make coal the most economical and environmentally acceptable combustion fuel for B&W products and services.

B&W is an active member of the Clean Coal Technology Coalition (CCTC) which was organized earlier this year for the purpose of communicating to Congress and the Administration their support of the clean coal technology development program. The CCTC represents private and public sector parties with diverse interests and responsibilities relative to coal. B&W endorses the CCTC's "Statement of Support for the Clean Coal Program," previously submitted for the record. We believe it is proper for the Federal Government to fund a reasonable portion of the total cost to develop and demonstrate the various emerging clean coal technologies that can lower costs, improve environmental quality, and use our most abundant domestic fuel resource.

B&W is a participant in four and a submitter in two of the 175 responses to the DOE's recent solicitation for the Clean Coal Technology Program. It is our opinion that the state of these technologies (ours and others as presented), is not sufficiently advanced to be accepted by the conservative electric utility industry and the Government agencies that regulate it. Users', regulators' and suppliers' confidence can only be achieved by demonstrating the technology at or near commercial scale. Financing this scale of demonstration on a "go-it-alone" basis is a very high-risk venture. Industry's approach would be very slow and overly deliberate. High risk, coupled with long-term payback potential, has doomed many good projects to failure by premature abandonment.

As a member of the Administration's National Coal Council, presently in its formative stages, I will strongly support and work for those endeavors that will bring about timely commercial demonstrations of the various clean coal technologies. I believe the congressional initiative to support this needed development is commendable, and may be the only serious endeavor, at this time, that can accomplish this national goal.

I want to thank you for this opportunity to express B&W's views on this very important matter.

Sincerely,

Walter M. Vannoy

Walter M. Vannoy

SUBCOMMITTEE RECESS

Senator JOHNSTON. The subcommittee will stand in recess until Tuesday, May 21 at 2 p.m.

[Whereupon, at 4:13 p.m., Thursday, May 16, the subcommittee was recessed, to reconvene at 2 p.m., Tuesday, May 21.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

WEDNESDAY, MAY 22, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:32 p.m. in room SD–138, Dirksen Senate Office Building, Hon. James A. McClure (chairman) presiding.

Present: Senator McClure.

DEPARTMENT OF ENERGY

NAVAL PETROLEUM AND OIL SHALE RESERVES

STATEMENT OF WILLIAM A. VAUGHAN, ASSISTANT SECRETARY FOR FOSSIL ENERGY

ACCOMPANIED BY:

- DONALD L. BAUER, PRINCIPAL DEPUTY ASSISTANT SECRETARY
- JERRY WALSH, DEPUTY ASSISTANT SECRETARY FOR MANAGEMENT, PLANNING AND TECHNICAL COORDINATION
- CAPT. MYRON E. SMITH, JR., CEC, USN, DIRECTOR, NAVAL PETROLEUM AND OIL SHALE RESERVE PROGRAM

OPENING REMARKS

Senator MCCLURE. The subcommittee will come to order. I apologize for being late. With a bill pending on the floor, with important matters being discussed and voted on there, it's sometimes difficult to keep our schedule.

And a closed session has been scheduled for 3 o'clock with a briefing of Members of the Senate that is viewed by the leadership as essential to their votes on the Defense authorization bill, we're going to be even more cramped for time. And it may be necessary, depending upon the reaction of other members of the committee to schedule another session but I reserve judgment on that at this point.

This is the time scheduled to review the fiscal year 1986 budget requests for the naval petroleum and oil shale reserves and fossil energy.

We will begin with the naval petroleum and oil shale reserves whose fiscal year 1986 request is $169,300,000, a decrease of $25,779,000 or 15 percent from fiscal year 1985 appropriations to date. Of this $169,000,000, $155,667,000 is proposed to come from prior year balances.

Testifying on behalf of the Department today will be Mr. William A. Vaughan, Assistant Secretary for Fossil Energy.

PREPARED STATEMENT

Mr. Secretary, if you would introduce those who are at the table with you, we will proceed directly to questions. Your full statement, of course, will be made a part of the record at this point.

[The statement follows:]

STATEMENT OF WILLIAM A. VAUGHAN

The Administration's fiscal year 1986 budget request for the Naval Petroleum and Oil Shale Reserves envisions a $169.3 million program. The requested new budget authority totals $13.6 million which would be added to $155.7 million to be provided from prior year appropriations.

The budget request reflects the President's decision to continue producing the Naval Petroleum Reserve No. 1, Elk Hills, located near Bakersfield, California, and the Naval Petroleum Reserve No. 3, near Casper, Wyoming, at the maximum efficient rate for an additional three years beginning April 6, 1985. Revenues from the sales of NPR petroleum and reimbursements from Chevron U.S.A., Inc., the joint owner of NPR-1, are expected to total $1.3 billion in FY 1986.

Program Highlights

The estimated total recoverable oil reserves at NPR-1 (Elk Hills) and NPR-3 (Teapot Dome) still exceed 700 million barrels, excluding additional reserves which might be recovered through enhanced oil recovery techniques or discovered by planned exploration.

Production from both NPR-1 and NPR-3 in FY 1984 averaged 141,000 barrels of oil per day, 360 million cubic feet per day of natural gas, and 638 thousand gallons per day of liquid products. During the first quarter of FY 1985, the two Reserves produced approximately 138,300 barrels of oil per day, 361 million cubic feet per day of natural gas, and 641.5 thousand gallons per day of liquid products.

Revenues to the Treasury from the sales of petroleum products during the first quarter of fiscal year 1985 totaled nearly $340 million, including Windfall Profit Taxes. Pursuant to the Department of Defense Authorization Act of 1985, P.L. 98-525, 30 percent of net revenues from the Reserves are being used to help fund purchases for the strategic materials stockpile program. I understand that the Administration is in the process of proposing that this provision of law be repealed. The current law, in our view, does not contribute to good public policy as it provides funds for the stockpile without Administration or Congressional review through the appropriations process.

Production and development operations at NPR-1 are performed by a Unit Operator under contract to the U.S. Government. The 5-year contract with the current Unit Operator, Williams Brothers Engineering Company, expires on September 30, 1985. A Request for Proposals (RFP) for a new 5-year contract was issued in July 1984. Following evaluation of the offers received in response to the RFP, the new contract will be awarded with the effective date targeted for October 1, 1985.

In October 1984 a longstanding problem regarding certain surface rights at NPR-2 (adjacent to NPR-1) was resolved with the enactment of Private Law 98-32. The law directs the Secretary of Energy, under specified conditions, to convey the surface rights of 10 parcels of land, about the size of two city blocks, to the private parties who occupy these parcels. Procedures for conveyance have been established, and the sales are expected to be completed within three years of the homeowners' application for conveyance. The government will retain all subsurface mineral interests, as well as the right to remove any mineral deposits.

The FY 1985 Appropriations Act provided the Secretary of Energy new authority to enter into contracts with state and local governmental entities, including local fire districts, for detecting and suppressing fires. With this new authority, the Department of Energy has begun to develop agreements with local firefighting organizations.

Testing enhanced recovery techniques remains an area of special interest at NPR-3. During this fiscal year, several pilot projects will be continued. By the end of FY 1986, sufficient information should have been collected to determine which of the techniques are economically and technically feasible for expansion. Less than 5 percent of the 180 million barrels estimated in the Shannon Zone (which contains nearly 71 percent of the original oil-in-place at NPR-3) is thought to be recoverable using conventional recovery techniques.

In activities related to the Naval Oil Shale Reserves (NOSRs), the first of 14 wells to prevent migration of natural gas from NOSR-3 to nearby commercial wells has been successfully drilled. This action was deemed necessary to ensure that the public value of the gas resource within the 14,000 acre Reserve remains protected. We plan to propose a reprogramming of sufficient funds to drill a total of six wells during fiscal year 1985. In FY 1986, an additional six wells would be drilled with the final two wells to be drilled in fiscal year 1987.

Activities have also been initiated to decommission the Anvil Points oil shale research and development facility on NOSR-3. We have requested contractor proposals for major activities including asbestos removal, demolition of the facilities, and reclamation of the land in compliance with federal and Colorado environmental statutes and regulations. This effort would be funded through a reprogramming which will be submitted to Congress in the near future.

The Department also plans to submit a request for authorization to develop and produce conventional oil and gas from the Naval Oil Shale Reserves. If such authority is provided, the Reserves would be leased for that purpose. While such leasing would not disturb the oil shale resource, it would open up new opportunities for private sector investment while reducing the use of public funds to develop, produce and protect the NOSRs.

Fiscal Year 1986 Budget Request

NPR-1 and NPR-2

The fiscal year 1986 budget request for NPR-1 and NPR-2 is $130,800,000. Funding is requested in four categories:

Operations and Maintenance ($95,000,000) -- Funding will be used to support the day-to-day activities necessary to continue the maximum efficient rate of production at NPR-1. In addition to drilling supervision, technical services, administrative support, and the operator fee, major activities funded in this category include:

(1) Production Operations ($39,620,000) which provides for maintenance and repair of pipelines, tank settings, pumps, and other equipment to collect, store, and distribute oil and gas; road maintenance; maintenance of water injections systems; maintenance and repair of the electrical distribution system; and other related activities. The focus of activities will continue to shift towards secondary and tertiary recovery methods while continuing maintenance on aging facilities and wells.

(2) Remedials ($10,920,000) provide for the major well work required to maintain existing wells in optimum producing condition. The includes increasing the production of wells in decline and restoring former producing wells to production. The types of remedial actions to be performed include recompletions, gas/oil ratio control, well stimulation measures, artificial lift workovers, abandonments, tubing replacements and casing failures. The FY 1986 request provides for major well work to be done on 164 wells, a decrease of 43 from FY 1985. Remedial work in FY 1986 and the out-years will concentrate on converting wells which formerly flowed naturally to artificial lift. Additionally, well stimulations and recompletions will be required to maintain production due to declining pressures in the various reservoir pools.

(3) Gas Operations ($15,385,000) provides for operation and maintenance of all gas plants, gas injection wells, field compressor units, dry gas production, and the liquid products loading rack. These facilities will process an estimated 350 million cubic feet of natural gas and 635,000 gallons of liquid products per day. Major gas plant repairs effected in FY 1985 will not be required in FY 1986.

Development Drilling ($17,900,000) -- provides for the drilling of all development wells at NPR-1. This includes water injection and EOR wells in addition to producing wells. Along with securing additional production, this program is designed to maintain reservoir and pool performance through pressure maintenance, and to further define reservoir limits. The FY 1986 budget request provides for drilling 46 wells. Technical evaluation of the field has determined that the primary drilling program is essentially complete, which has reduced drilling requirements. Future emphasis for field development must be directed to secondary and tertiary recovery methods. This is reflected in the FY 1986 program by the increased drilling of water injection and enhanced oil recovery wells.

Development Facilities ($8,000,000) -- This category provides funding for the construction of facilities in response to changing field conditions and requirements such as declining reservoir pressures, increased water and gas produced with crude oil, the use of secondary and tertiary recovery methods, and environmental and safety requirements. This includes such items as conversion of formerly flowing wells to artificial lift, conversion of collection facilities from high to low pressure systems, modification of waste water disposal and injections systems, and compliance with environmental and safety regulations.

Exploratory Drilling ($9,900,000) -- The request for this category would provide funds to complete the drilling of a deep test well initiated in FY 1985. Exploration of the shallower zones has essentially been completed. The deep test will provide confirmation of potential additional reserves and allow for the testing of four different zones upon completion of drilling. The funds requested will provide for drilling to a depth of 25,000 feet. Upon completion and testing, this well will be produced in the most favorable formation.

NPR-3

The FY 1986 budget request for NPR-3 is $29,184,000 and provides funding for Operations and Maintenance ($20,187,000); Development Drilling ($3,950,000); and Development Facilities ($5,047,000). This represents an increase over the FY 1985 budget, due principally to the initiation of three new recovery projects, a modest increase in drilling in the deeper zones, and the use of available prior year funds in FY 1985.

This request includes the normal operation and maintenance activities at approximately the same level of costs as in FY 1985, in addition to an increase of 15 wells to be drilled in the deeper zones and three new recovery projects (the Shannon oil drainage process, Muddy Reservoir pressure maintenance facilities, and a steam drive process in the Shannon formation).

These projects will sustain and/or increase current production until full-scale implementation of an EOR process occurs. The EOR pilots are operational and will be run through FY 1987. This will ensure the economic and technological success of an EOR process before the costs of expansion are incurred.

NAVAL OIL SHALE RESERVES (NOSR)

The budget request for the NOSRs is $3,864,000. Of this amount, $3,754,000 will be used to fund six wells (out of a projected 14) in FY 1986 to prevent migration of natural gas to nearby commercial wells. This request also continues land management activities at all the NOSRs and provides for minor maintenance and security at NOSR-1 and 3.

PROGRAM DIRECTION

Funding is also requested for Program Direction salaries, benefits, travel, and other related costs to support 112 fulltime equivalent employees and eight military personnel assigned to the program. The budget request for this category is $5,468,000.

Funding From Prior Year Appropriations

Funds amounting to $155.7 million for the Naval Petroleum and Oil Shale Reserves are available from prior year appropriations due to several factors:

First, the oil fields are now in the stage of maturity whereby fewer development wells are required than originally planned. Recent subcontractor drilling costs have been less than anticipated. Because of these items, $68.6 million of prior year development drilling funds from NPR-1 are available.

Second, contractor personnel at NPR-1 and NPR-3 have been reduced; there are improved operational and gas plant procedures at NPR-1; contractor personnel are being utilized more efficiently, reducing the requirement for subcontracting support; operations and maintenance costs have been reduced at NPR-1 due to wells not drilled; enhanced oil recovery pilot results have been slower than anticipated which has delayed the field implementation plan at NPR-3; and prices have been reduced for many petroleum related materials. This has resulted in $66.6 million of prior year operations and maintenance funds becoming available.

Third, construction of new development facilities is under budget, and a decrease in planned facility expansions associated with the drilling of fewer development wells at NPR-1 has resulted in a cost savings of $16.4 million.

Fourth, the completion and close out of exploratory well drilling subcontracts at NPR-1 and NPR-2 have resulted in a $4.1 million cost savings available for budget offset purposes.

This concludes my formal statement, Mr. Chairman. I will be pleased to answer any questions you may have.

INTRODUCTION OF ASSOCIATES

Mr. VAUGHAN. Thank you, Mr. Chairman.

I have with me on your right, my left, first Mr. Don Bauer, my Principal Deputy. And beyond him, Mr. Jerry Walsh who's in charge of Management Planning and Technical Coordination for Fossil Energy. These gentlemen will remain with me for both topics.

And then on your left, my right, is Captain Smith, the Director of the Naval Petroleum and Oil Shale Reserve Program.

NEW MANAGEMENT AND OPERATING CONTRACTOR

I would, Mr. Chairman, like to make an addition to the record with respect to the formal statement. You recall there is a fairly lengthy formal statement involving the fossil energy R&D budget, with a much shorter formal statement on the naval petroleum and oil shale reserves. At the top of page 2 in that statement——

Senator McCLURE. On the naval petroleum and oil shale reserve?

Mr. VAUGHAN. Yes, sir.

We have been overtaken by events and I wish to simply bring the committee fully up to date.

As you know, we have a new operating contractor coming on board at Elk Hills, Bechtel Petroleum Operations, Inc., which will replace Williams Brothers Engineering Co. We have just recently completed a transition agreement with these contractors to bring the new contractor on board sooner than originally planned. I thought that perhaps the most efficacious way to correct this for the record is simply to use the DOE news release about the transition and add it to the statement.

Senator McCLURE. We'll make it a part of the record at that point, and I thank you.

[The information follows:]

DOE NEWS RELEASE

NOTE TO EDITORS:

The Energy Department today announced that Williams Brothers Engineering Co. [WBEC] of Tulsa, OK, will complete its operations at the naval petroleum reserves in California 2 months earlier than originally planned.

The agreement between the Department and WBEC will permit the new contractor, Bechtel Petroleum Operations, Inc., to begin a 90-day transition period immediately and to begin work under the newly awarded contract on August 1, 1985, rather than October 1, 1985. Bechtel was selected in March to manage and operate the Elk Hills and Buena Vista Hills oil fields near Bakersfield, CA, for 5 years. WBEC had operated the fields since 1975.

The oil fields are part of the Government's naval petroleum reserves administered by the Energy Department. Elk Hills (Naval Petroleum Reserve No. 1) is developed and operated in conjunction with the Chevron Corp.

The accelerated transition between contractors will permit Bechtel to assimilate current WBEC staff sooner. Under terms of the Government contract, most of the personnel currently employed at the California reserves are to be offered the first opportunity for similar jobs with Bechtel.

Also by accelerating the changeover, the new management system proposed by Bechtel, which was a major factor contributing to the firm's selection, will be introduced more quickly.

FUNDING FROM PRIOR YEAR APPROPRIATIONS

Mr. VAUGHAN. With that, sir, we're ready for your questions.

Senator MCCLURE. Mr. Secretary, can you briefly explain how this $155 million became available?

Mr. VAUGHAN. Yes; that breaks down into cost savings of $69 million because we drilled fewer development wells at NPR-1 and we have had significantly lower subcontractor drilling costs.

Then there is another, roughly, $67 million of prior year operations and management costs saved because, first, we have managed to reduce the number of contractor personnel in order to accomplish a mission, in other words, do it more efficiently.

Second, at NPR-1 we've had significantly improved, more efficient operational and gas plant procedures that resulted in savings and we have used less subcontracting support than we expected. Also, we had a reduction at NPR-1 in operation and maintenance cost and we slowed down enhanced oil recovery programs at NPR-3. Altogether, these savings amounted to some $67 million.

There is a further $16 million cost savings because the new development facilities at NPR-1 came in under-budget and we drilled fewer development wells at NPR-1 than we had originally planned.

Senator MCCLURE. I will probably submit some further questions with respect to some of the subitems that you've referred to here but won't take the time at this point.

Mr. VAUGHAN. We'll be more than happy to provide the detail, Mr. Chairman.

NOSR-3 DRILLING

Senator MCCLURE. Your fiscal year 1986 budget requests $3,754,000 to drill six offset wells to protect the natural gas resources underlying NOSR-3. You began implementing your gas protection plan earlier this fiscal year with reprogrammed funds. Have you completed drilling both the wells agreed to last year?

Mr. VAUGHAN. We've finished, Mr. Chairman, one of the wells; we have not finished the second well.

Senator MCCLURE. When do you expect to finish it?

Mr. VAUGHAN. Just a moment, Mr. Chairman, I'll get you that answer.

[Pause.]

By December, Mr. Chairman.

Senator MCCLURE. By December of this year?

Mr. VAUGHAN. Yes, sir.

Senator MCCLURE. Has the work done so far provided you with evidence of fracturing and gas migration?

Mr. VAUGHAN. We think the work that we've seen does confirm that there was gas migration. But the detailed evaluation from the drilling activity of the first well has not come to us yet from the Morgantown Energy Technology Center.

Senator McClure. When will that report come? You're waiting the completion of the second well before you do any of the analysis?

Mr. Vaughan. That analysis will be completed in July, Mr. Chairman. We're not waiting for that analysis to go ahead with the second well. The slowdown in drilling the second well has been due to a problem with getting signatures and agreements with adjacent owners.

Senator McClure. Do you have any indication as yet as how much gas has been lost?

Mr. Vaughan. Mr. Chairman, unfortunately, that's almost impossible to ever really know.

Senator McClure. I'm sure you'll never really know but do you have an estimate?

Mr. Vaughan. We do not have an estimate.

Senator McClure. Will you have an estimate?

Mr. Vaughan. We will have the best estimate we can give from the Morgantown Energy Technology Center report but I would hazard to point out, Mr. Chairman, that that kind of estimate is just an estimate. It'll never be any better than that, unfortunately.

Senator McClure. I understand that. If these wells don't stop the gas from migrating—well, let me rephrase that. Will these wells stop the gas from migrating?

Mr. Vaughan. They really don't stop it from migrating, Mr. Chairman. What they do is allow the Government to recover its share. So if anyone starts developing and pumping that field or extracting gas from that field, gas will migrate toward the production area. The Government wells are there to offset production losses.

Senator McClure. You get your share if you have pooling agreements within the geological structure, won't you? It isn't a question of drilling wells in order to get your share out before somebody else does. That, by itself, isn't going to work, is it?

Mr. Vaughan. It is mainly in the sense, Mr. Chairman, of extracting gas we think would migrate to the other production wells and off Government property.

Senator McClure. In the absence of pooling agreements, you intend to get your share by getting there first?

Mr. Vaughan. Only in the sense, Mr. Chairman, that since the neighboring commercial drillers have started production and there will be some migration, we feel that we must go in there and acquire the Government's gas to keep it from migrating out.

Senator McClure. I don't question that at all. What additional plans do you have and how much will it cost to implement them?

Mr. Vaughan. The full plan, Mr. Chairman, is the 14 well program. We believe that is the optimum program. And we will give for you the total cost in just a moment.

Senator McClure. If you can provide for the record——

Mr. Vaughan. We'll provide it for the record.

Senator McClure [continuing]. Together with an estimate of how much we'll lose in revenues if we don't.

Mr. VAUGHAN. Yes, sir.

[The information follows:]

NOSR-3 GAS PROTECTION PLAN

The Naval Oil Shale Reserve No. 3 is situated along the Rulison gas field which is producing natural gas from the Wasatch and Mesaverde formations. Because of the extensive development in this field there was a high probability that NOSR-3 resources were being drained to commercial wells off of the reserve. The "Plan for Protecting the Natural Gas Resources Naval Oil Shale Reserve No. 3, Garfield County, CO" was finalized in July 1983. Currently, 14 wells are deemed necessary to offset production from the commercial wells.

The first Mesaverde well was drilled in November-December 1984 and is currently undergoing formation testing and evaluation. The well appears to be the highest producer in the Rulison field with a projected initial production rate as high as 3,000 Mcf/day. The next Mesaverde well will be drilled as soon as the communitization agreements are finalized. All working interest parties have approved the agreements. The agreements require the consent of the President.

The cost of the protection plan is as follows:

[Dollars in thousands]

	Cost	Wells
Fiscal year:		
1984–85	$2,594	2
1986	3,754	6
1987	4,689	6
Total	11,037	14

It is anticipated that the 14 well drilling program at NOSR-3 will conservatively yield a net present value of approximately $34 million over the life of the wells which is estimated to be 20 years. This is based on a gas price of $2.73 per Mcf and a 10-percent discount rate. Estimated production rates and revenues for fiscal year 1986 to fiscal year 1990 are as follows:

[Dollars in millions]

	Production Mcf/day	Cost
Fiscal year:		
1986	4,300	$3.9
1987	7,430	6.8
1988	7,272	6.6
1989	6,545	5.9
1990	5,890	5.3

ADDITIONAL COMMITTEE QUESTIONS

Senator MCCLURE. I have a number of additional questions to submit for the record but in view of the time constraints I will not take the time at this point but will submit them for response in writing.

Mr. VAUGHAN. Fine, sir.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

Fire Protection

Question: Has your fire protection at Elk Hills improved since you were provided authority to enter into agreements with local fire departments?

Answer: We have always received excellent support from the Kern County Fire Department. The authority to enter into agreement with local fire departments allows us to reimburse Kern County for fire protection services which we require and receive and for which it has not received fiscal support from the Federal, State, or local governments in the past. This agreement is being negotiated with Kern County authorities.

NOSR-3

Question: Your fiscal year 1986 budget requests 3 million, 754 thousand dollars to drill 6 offset wells to protect the natural gas resources underlying NOSR-3. You began implementing your gas protection plan earlier this fiscal year with reprogrammed funds. Have you completed drilling both the wells agreed to last year?

Answer: The first well (Government-owned) was drilled to total depth by December, 1984, and is now under formation completion and testing. The second well has not been drilled due to delays in finalizing and obtaining signatures on the communitization agreements. Signatures have recently been obtained and the agreements will be forwarded to the President for his approval following Department of Interior concurrence. Upon Presidential approval drilling will begin, with an estimated start date of late summer or early fall.

Question: Has the work done so far provided you with evidence of fracturing and gas migration?

Answer: The question of drainage is difficult to quantify due to the nature of the tight, lenticular sands of the Wasatch and upper Mesaverde formations. It has been determined that drainage will occur if a Rulison field well is producing from a sand lens which extends under the NOSR-3 boundary or if communications exists between lenses due to fractures. The preliminary results of the Morgantown Energy Technology Center (METC) study and analyses of the first Department of Energy well (1-X-M9) by staff members have been inconclusive in proving the theory of lens to lens communication. The only certain drainage, therefore, is from wells which intercept lenses extending under the NOSR-3 boundary. Due to the relatively random orientation of the lenses and variations in lens size, the extent of this drainage cannot be positively identified.

Question: Do you have any indication on how much gas has been lost?

Answer: At this time, insufficient data has been gathered and evaluated to provide estimates of the amount of gas lost.

Question: If these wells don't stop the gas from migrating, what additional plans do you have and how much will it cost to implement them?

Answer: Our plans are to continue with our 14 well program along the NOSR-3 boundary to offset production losses due to the Rulison field wells. This program calls for 6 wells to be drilled in each of fiscal years 1986 and 1987 in addition to the 2 wells drilled this year. Although we cannot be certain that the production from these wells will prevent drainage due to the uncertainty of penetrating lenses common to Rulison field wells, we can be statistically confident that offsetting production will occur due to the probability of penetrating and producing from lenses that extend over the NOSR-3 boundary into the Rulison field. More simply, we would be draining from the Rulison field a similar amount that the Rulison field wells would be draining from NOSR-3 even if no individual lens is being drained simultaneously by both DOE and Rulison field wells.

No additional costs are anticipated at this time since we do not plan to deviate from our original 14 well program. This plan has been determined as the most effective protection short of full-scale field development. The answer to the question of drainage may become clearer, after analyses of cumulative production and pressure data against production time over a significant time period.

NPR-1 Environmental Compliance

Question: The Regional Water Quality Control Board recently completed a study which indicated that surface disposal of co-produced oilfield brine has degraded usable groundwater within and adjacent to Westside oilfields, with Elk Hills listed as a probable contributor.

Can you explain what the environmental problems are with surface disposal of brine solutions and what you intend to do to solve them?

Answer: Large volumes of saline water ("brine") are usually produced with the crude oil when it is brought to the surface. This brine can be generally characterized as having a salinity and high concentrations of other minerals which make it unsuitable for human consumption, agricultural or industrial use. Surface disposal of co-produced brine does not necessarily create environmental problems. Local water quality regulations often permit surface disposal by percolation into the ground from unlined sumps when it is clear that the brine will not invade potable ground water aquifers or otherwise contaminate land which might be used for agriculture. Sumps lined with impermeable materials are often used to evaporate wastewater into the atmosphere, with the suspended solids scraped from the sump bottom for other disposal. When surface disposal is not environmentally acceptable, then disposal of co-produced brine is generally accomplished by deep injection into appropriate poor-quality aquifers.

Except for one small site in section 26Z, all co-produced wastewater from operations on NPR-1 is deep-injected into poor-quality aquifers or oil-producing zones for pressure maintenance. Regulated surface sumps are used as backups in upset or equipment failure situations. DOE has included $750 thousand in its FY 1986 budget to replace the 26Z percolation site with injection facilities. At NPR-3, about 80 percent of co-produced brine is disposed of via injection. The remaining 20 percent is percolated at surface sumps operated pursuant to local water quality permits.

Question: Are you in violation of any air pollution standards? If so, what have you requested in fiscal year 1986 that will solve the problem?

Answer: As one of the largest oil fields in the United States, Naval Petroleum Reserve No. 1 (NPR-1) in California maintains over 140 separate Clean Air Act permits for its operations and is regularly inspected and monitored by the Kern County Air Pollution Control Board (KCAPCB), which implements and enforces EPA's Clean Air Act regulations for the Kern County area. In early 1985, the KCAPCB issued a number of citations to the Operating Contractor for NPR-1 after a routine permit renewal inspection detected petroleum vapor and natural gas emissions to be above permitted levels at a number of dehydration and oil storage tank settings. A citation was also issued when a natural gas flare stack was observed to be emitting excessive smoke. All deviations from permit requirements were temporary in nature and were caused by either electrical power failures (the flare stack smoke), a diminution of the processing capacity of air pollution control systems due to system maintenance accompanied by anticipated high gas-oil ratio production from a number of wells, or routine deterioration of tank hatch seals. The KCAPCB has been most cooperative in working with us to correct these deficiencies. To ensure that we maintain our good relationship with the local regulators and continue to set a good example in environmental compliance, we have tasked the current contractor to effect repairs and/or obtain variance permits where feasible and the new Maintenance and Operating Contractor to conduct a number of studies in FY 1986 regarding air pollution control. These studies will include a verification of a field facilities inventory and review of all operating permit requirements; the development of an automated permit schedule tracking and facility inspection/maintenance system; a review of the emissions baseline we provided to the KCAPCB in 1978 and an analysis to determine if the advances we have made over the years in reducing certain criteria pollutants are accurately reflected in permit requirements; and a study to determine if we can achieve even further reductions in air pollution emissions in a cost effective manner, such as by cogenerating electricity using our abundant natural gas production, injecting compressor engine exhaust into underground wells (rather than emitting the exhaust into the atmosphere), or expanding the electrification of well pump engines. Other than the instances discussed above, all of our field facilities in California and Wyoming are in compliance with all Clean Air Act requirements.

NPR-1 Deep Test

Question: Included in your fiscal year 1985 request was a request to initiate an exploratory well at Elk Hills to be drilled to a depth of 25,000 feet. Funds were appropriated last year to support half of this well and this year you have requested funds necessary to complete this deep test well. Have you started drilling this well yet?

Answer: The drilling commenced on May 29, 1985 as planned.

Question: Upon successful completion of this deep test well, is it your intent to set up a production facility?

Answer: The purpose of the deep test is to discover new productive horizons of hydrocarbons. There is no need to program for additional production facilities until hydrocarbons are located and identified. Generally, hot dry natural gas is obtained at these greater depths. The associated production facilities for hot dry natural gas would be minimal, consisting mostly of gathering lines. It will take 2 years to drill and test all potential horizons. In anticipating new productive horizons, outyear budget requirements will address funds required to produce new hydrocarbon discoveries.

NPR-1 Development Facilities

Question: You have requested 780 thousand dollars for "facility modifications which cannot be identified at this time to respond to changes." This is a decrease of 2 million, 750 thousand dollars from the fiscal year 1985 level of 3 million 530 thousand dollars. Will you give some examples of these modifications in the past?

Answer: Representative examples of facilities projects included in the 1985 Miscellaneous Unscheduled Projects category are: the gas dehydration train inspection boxes, fireproofing the 11G file room, 23S-25S SOZ collection line, fencing the NE boundary, improvement of the 35R gas drying facility, modification of the 3-30S Stevens tank setting production facility, and cathodic protection for the LTS loading and storage area.

Unscheduled projects in prior years include the 35R inlet gas pressure control, replacement of the 32S water storage tank, repair fire and explosion damage to the LTS #1 and 35R gas plants, and installation of electric jacket water pumps at LTS #1 and 2 gas plants.

Question: Why is there such a large decrease in these costs this year?

Answer: Unscheduled facility modifications were first identified as a budget line item in the 1985 budget submission to Congress. Prior to 1985, Facilities Development budget categories were more general in nature, allowing "unscheduled" projects to be funded within broad zone related or functional categories e.g., Stevens Zone facilities, cathodic protection, environmental compliance facilities, and water disposal facilities. Because of the necessity to meet constantly changing field conditions and unforeseeable events associated with a dynamic development program, priorities for individual facility projects were continuously being revised.

Since the major development phase for the field has now been completed and current efforts are predominantly in the operations/maintenance area plus secondary and enhanced oil recovery programs, a more stable operation exists, and we are able to define more clearly the projects/modifications that are needed. The Fiscal Year 1985 budget submission was the first occasion to reflect this change in procedures. However, recognizing that constantly changing field conditions and unforseeable events continue to occur, such as a more rapid decline in field gas pressures; unanticipated increased gas production; gas plant explosion; and environmental compliance requirements, the "Miscellaneous Unscheduled Projects" category was added. As we more clearly identify future projects/modifications that are needed, it is anticipated that future budget requests for this line item will stabilize.

Question: In the past few years, have large variations occurred often?

Answer: As indicated in the previous answer, funds for this specific category were first requested in 1985, therefore, exact variation in costs cannot be given over the last few years.

Question: For the record, please provide a list of the cost of unscheduled modifications for the past 5 years.

Answer: Provided below is a listing of the estimated costs for "unscheduled modifications" for the past 5 years. As explained above, this category was not specifically identified until the FY 1985 budget. In prior fiscal years, "unscheduled" projects were the norm as modifications were made in response to field conditions at the time. The projects shown reflect a rescheduling in response to shifting priorities due to the changing field conditions incurred in a dynamic oil field operation.

Actual Costs
($000)

	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
Unscheduled	$9,025 1/	$ 211	$2,682	$ 605	$1,100 2/

1/ FY 1981 costs contained projects included within the California Development Program which underwent a programmatic change.

2/ Actual to date.

NPR-3 Utility Costs

Question: Included in your fiscal year 1986 request is 500 thousand dollars in increased utility costs due to the correction of faulty utility metering by Pacific Power and Light Company. Can you briefly explain this metering problem?

Answer: The problem was that the main field meter used by Pacific Power and Light Company (PP&L) to measure electricity was incorrectly measuring the amount of electricity used, resulting in NPR-3 paying less utility costs than actually incurred. The period during which this faulty metering occurred was approximately one year, from the fall of 1983 to the fall of 1984. PP&L has since corrected the metering problem.

Question: Is the additional 500 thousand dollars to pay for previous utility costs which were underpaid because of the faulty metering?

Answer: The requested increase of $500,000 for utility costs is to pay for the estimated required electricity usage in FY 1986 based upon correct metering. Back charges for utility costs have been paid from available prior year funds.

NPR-1

Question: At Reserve Numbers 1 and 2 you request 3 million, 300 thousand dollars to fund 72 FTE's for on site management. In fiscal year 1985, you requested 3 million, 200 thousand dollars for 75 FTE's. How are you going to fund an additional 3 FTE's for 100 thousand dollars less funds?

Answer: The FY 1986 budget requests 72 FTE's to provide on site management at Reserves Nos. 1 and 2. This is a decrease of 3 FTE's from 1985. The funding requested in FY 1986 to support on site management is an increase of $110,000 over FY 1985. Increased funding is requested at Reserves Nos. 1 and 2 because of reimbursement to the Department of Defense for 4 military officers assigned to Reserves Nos. 1 and 2. This more than offsets the reduction in funding due to 3 less civilian FTE's. Previous to FY 1986, all military officers were budgeted at the Headquarters office. With the FY 1986 request, budgeting for military officers has been allocated among Headquarters and the respective field offices.

Question: Under Operations and Maintenance for Reserves Numbers 1 and 2 the Operator Fee provides for the base fee and award fee paid to the operating contractor for operating the Reserve. Both the fee and maximum award are negotiated annually, and the award amount is based on evaluation of performance.

In fiscal year 1984 this fee was 4 million dollars. In fiscal year 1985 it was increased to 4 million, 200 thousand dollars. In the fiscal year 1986 request the fee is proposed to be dropped back to 4 million dollars.

I understand that this fee is an estimate based on historical performance but would you explain why the fee is proposed to be the same in fiscal years 1984 and 1986 and 200 thousand dollars higher in fiscal year 1985?

Answer: The award fee is based on the total estimated cost of the level of contractor effort as negotiated on the scope of work and the evaluation of performance. The increase in fee from FY 1984 to FY 1985 is based on slightly higher estimated expenditures (not budget authority) in FY 1985 resulting in a larger fee pool. The decrease from FY 1985 to FY 1986 is due to the fact that the procedures for establishing fees for management and operating contracts, as set by the Office of Procurement, have been revised. It is estimated that this revision will result in a reduced fee pool being made available to the operating contractor. The fact that the award fees for FY 1984 and FY 1986 are identical is coincidence and not planned. It is expected that award fees in future years will approximate the $4 million dollar level.

NPR-3

Question: This year's request for the Naval Petroleum Reserves in Wyoming (NPR-3) is 29 million, 184 thousand dollars, an increase of 11 million, 343 thousand dollars -- or 38 percent -- over the fiscal year 1985 appropriated level.

Will you explain what this increase is for and how much of prior year funds will be used to finance it?

Answer: The FY 1986 budget request represents an increase of $11,343,000 over the FY 1985 appropriation, but is only an increase of $6,843,000 over the amount of budget authority available for expenditure in FY 1985. During the FY 1985 apppropriation process, Congress reduced the FY 1985 request for NPR-3 by $4,500,000 because of the availability of prior year funds. These prior year funds were to be used to help finance the FY 1985 program, and no program activities were reduced or eliminated as a result of this action. Thus, while the FY 1985 appropriation is $17,841,000, the actual level of funding available is $22,341,000. This results in real programmatic increases of $6,843,000 from FY 1985 to FY 1986. The programmatic increases include: $1,341,000 for Operations and Maintenance increased operator fee and utility costs; $1,705,000 for Development Drilling due to 15 additional wells planned for drilling in FY 1986; and $3,797,000 for Development Facilities due to the initiation of three new recovery projects.

The FY 1986 budget request of $29,184,000 will be financed by $21,113,000 of prior year funds, leaving a request of $8,071,000 in new budget authority, Of the $21,113,000 which will be used to offset the FY 1986 request, $2,400,000 is from NPR-3 prior year funds, with the remainder applied from NPR-1.

NPR-1 Artificial Lift

Question: You have requested 5 million, 250 thousand dollars to place 30 Stevens wells on artificial lift at NPR-1. Of the total 408 producing wells, this would bring the number of wells on lift to 259, an increase from 229 in fiscal year 1985 and from 164 in fiscal year 1984.

Will it be necessary to put the entire 408 wells on lift?

Answer: All Stevens Zone wells that are not injection wells will require artificial lift at some point in their productive life. The total number of wells requiring artificial lift will deviate from the current number of 408 producing wells due to the conversion of approximately 10 to 20 wells from producers to injectors and the additional drilling of infill wells in future years.

Question: Why does it appear that this program is slowing down?

Answer: The timing decision for placing wells on artificial lift depends upon reservoir and economic conditions. As the pressure in the oil band decreases and the percent of produced water increases, artificial lift becomes necessary to keep the wells on production. Premature conversion to artificial lift would result in increased operational costs which would not be necessary for production.

Fossil Energy Research and Development

STATEMENT OF WILLIAM A. VAUGHAN ASSISTANT SECRETARY FOR FOSSIL ENERGY

ACCOMPANIED BY:

DONALD L. BAUER, PRINCIPAL DEPUTY ASSISTANT SECRETARY
JERRY WALSH, DEPUTY ASSISTANT SECRETARY FOR MANAGEMENT PLANNING AND TECHNICAL COORDINATION

1985 PROPOSED DEFERRALS

Senator McClure. We turn now to the Department of Energy's Fossil Energy R&D Program. Do you have any others who will testify with you this afternoon?

Mr. Vaughan. Let's see how that goes. I do have other staff members here, Mr. Chairman, and if we can't quickly answer your questions, I may ask one or two of them to assist me.

Senator McClure. Thank you very much.

Before we turn to your proposals for 1986, I'd like to ask a few questions about proposed 1985 deferrals and the action by the House Appropriations subcommittee on those proposals.

What's happened as a result of our asking for, and the Secretary granting, an extension on the effective date of the deferrals?

Mr. Vaughan. There were three ongoing programs, Mr. Chairman. One of them, which was the MIFGA proposal, we have fully funded throughout the rest of the year. Once we went through the first cycle of extending these projects; it made no further sense with the relative funding and the status of that project to any benefit by withholding funds. So we funded it for the remainder of the year.

The other two projects we are funding on a month-to-month basis in response to the Congress' request. That's MHD and Wilsonville, they're now funded until June 1, but candidly, Mr. Chairman, I would expect if there's been no action, in view of the nature of the request and the Secretary's answer in the hearing in the House, I would expect that they would be continued month to month.

MATERIALS PROGRAM AT THE IDAHO NATIONAL ENGINEERING LABORATORY

Senator McClure. As I understand it, the House has agreed to some of your deferrals and overturned others.

One item not overturned by the House is the Critical Materials Program funded for $983,000 at the Idaho National Engineering Laboratory [INEL] in conjunction with the Bureau of Mines. Is it correct that the materials work underway at INEL has been structured so as to be complementary to, rather than duplicative of, other ongoing DOE efforts?

Mr. VAUGHAN. Yes; Mr. Chairman, since that action occurred last fall, we have had meetings with INEL and with Bureau of Mines and I think I can assure you that work will be complementary and not duplicative.

Senator McCLURE. And that there will be no further effort to terminate that program?

Mr. VAUGHAN. That particular program, Mr. Chairman, was never initiated. That was a brand new program and it was not initiated. So that doesn't fall within the area of my earlier answer about ongoing projects.

Senator McCLURE. Well, what is the answer then? You don't intend to start it?

Mr. VAUGHAN. We would not intend to start it depending on what the full congressional action is on the deferral, Mr. Chairman.

Senator McCLURE. Does DOE have any other projects underway that focus on consolidation of aluminide powder produced by rapid solidification or joining of silicone-based ceramic fiber, ceramic matrix composites?

Mr. VAUGHAN. I think the short answer to that is, no, sir.

Senator McCLURE. Your justification for the deferral states, "Some of this research is already provided for in the Fossil Energy R&D, Research and Development Materials Program." Why, then, did you respond to staff questions that these projects had been designed so as to be complementary?

Mr. VAUGHAN. I think perhaps describing the chronology, Mr. Chairman, would give the best focus on your question.

When that money was added to the budget, we set out a program, of course, to comply with the Congress' wishes. We then received the charge from the President to cut budgets and were given a target to shoot at across the Federal Government and that's where the change occurred. We put that on the deferral list since that had not been one of the projects that we had planned to do from the beginning. Of course, we had a little background on it.

Basically, we felt that while that is worthwhile work, we believe that the overall program would be benefited by continuing and completing ongoing work rather than starting this new work.

Senator McCLURE. Well, I'm really focusing not on whether we should complete ongoing work or start new work, but you've answered my question today in exactly the same way you answered staff questions earlier—that the projects have been designed so as to be complementary rather than duplicative. And yet your justification for the deferral states that some of the research is already provided for in the Fossil Energy R&D Materials Program.

Now, one of the two statements has to be, at least in part, incorrect.

Mr. VAUGHAN. But I would guess then the error probably is that we're a little too broad with our general description that is covered in AR&TD work.

Senator McCLURE. In the deferral statement?

Mr. VAUGHAN. Yes; I think so, sir. But, if I may, I would like to address that question in some detail and get you a written explanation for the record.

Senator McCLURE. That would be fine. I would appreciate that.

GLO-KLEN PROCESS

Another deferral proposal not overturned by the House is the flue gas cleanup project, funded for $1,967,000, to test the Glo-Klen combustion catalyst.

Is this process the same as a LIMB test? Or is this a different kind of cleanup process involving a chemical catalyst process?

Mr. VAUGHAN. This is not the same as the LIMB process, Mr. Chairman. It is a reactive catalyst, as I understand it.

Senator McCLURE. Does EPA now support the testing of Glo-Klen?

Mr. VAUGHAN. I don't think so, Mr. Chairman, but I have not gotten a formal position from EPA on this particular matter.

Senator McCLURE. Have you solicited their evaluation of the project?

Mr. VAUGHAN. Yes; we did, Mr. Chairman.

Senator McCLURE. What, in your judgment, is the biggest step in developing a new technology on a combustion catalyst? Moving from laboratory analysis to bench scale or from bench scale to utility scale?

Mr. VAUGHAN. I would think, Mr. Chairman, that the critical or the most important step is to go from very small laboratory status to some intermediate scaleup, and then later go to a larger scaleup. And I would think that first step is more important than the second.

Senator McCLURE. I will submit some further questions with respect to that project.

Mr. VAUGHAN. Yes, sir.

KILnGAS DEMONSTRATION

Senator McCLURE. If, on KILnGAS, if Congress were to overturn the proposed deferral of $7,376,000 for demonstration runs of the KILnGAS coal gasification process, how would DOE administer the funds? Through what office? Subject to what conditions? Tested to generate what data, and so on?

Mr. VAUGHAN. We would carry that out most likely, Mr. Chairman, through the Morgantown Energy Technology Center and in strict accord with the direction of the Congress in that particular matter. Yes, sir.

WILSONVILLE PILOT PLANT

Senator McCLURE. Your initial deferral proposal indicated that you thought that by April 1985, the R&D program at the pilot plant at Wilsonville will have effectively achieved proof of concept. Has that occurred?

Mr. VAUGHAN. Substantially, yes, sir.

Senator McClure. Would you provide for the record the results as you perceive them in that proof of concept?

[Clerk's note.—Due to the brevity of the hearing, these questions have been reprinted, with answers and inserts, at the end of the hearing.]

Mr. Vaughan. Yes, sir.

TECHNOLOGY DEVELOPMENT

Senator McClure. Turn now to the 1986 budget. Your statement on page 3 includes major elements or key points that guided your budget decisionmaking process. One of those points emphasizes that the current DOE view is that the Federal role is well-served by doing basic research and applied research through the proof of concept stage, but that the industry would then assume the responsibility for further development and commercialization.

As you know, last Thursday, the committee spent almost 5 hours receiving testimony from 34 witnesses supporting appropriations beyond the proof of concept stage for the Clean Coal Technology Program. A frequently quoted document was the recent ERAB report, which states in part that:

> DOE should ensure commercialization of some clean coal technologies simultaneously requiring high rates of cofunding—that is, greater than 50 percent—and only for carefully selected technologies.

Would you care to comment in generic or broad terms on the charge that DOE should assure commercialization of certain technologies?

Mr. Vaughan. I'd be more than happy to, Mr. Chairman. I think you've hit the very essence of the difference between the Department's clean coal technology report and its conclusions and the ERAB report. And I think you really hit the one word that expresses the difference in those two reports.

ERAB believes, and is advising the Department, that it should see its role as assuring commercialization. And the administration and Department would respond that we have designed a program in long-range generic R&D that will afford our private sector the opportunity to, in a broad array of technologies, to commercialize but that the Government would not.

So the difference is we do not see a mission of assuring. As I testified over in the House, Mr. Chairman, on this same subject, the ERAB report has several premises. One is the assurance of commercialization. Second, it does limit itself to utility utilization. And it also sets as a very high priority quick adoption and commercialization.

It would be hard to argue with the ERAB report if you accept those premises. And, in that sense, I want to point out that I do not disagree with that report given those premises.

I do, of course, and the administration has different premises and approach to the problem, which we think is a superior one.

But I want to also assure you that Secretary Hodel was the man that commissioned ERAB to do this work; he did that in good faith. And, clearly, it is our duty to seriously consider the recommendations of an advisory committee of the prestige of ERAB. That was a thoughtful report. And I can assure you that Secretary Herrington and I and others involved in the Department will seriously consider that report.

I will not tell you that we will necessarily be bound by it, but we are certainly going to look at it seriously.

EPRI/DOE COAL PREPARATION PROGRAM

Senator McClure. DOE and the Electric Power Research Institute will be cooperating on a coal preparation program at the Homer City, PA, coal cleaning test facility in 1985 and 1986.

What's the status of that cooperative program?

Mr. Vaughan. We just completed signing the agreement with EPRI in February of this year, Mr. Chairman. This, if you recall, is the second step in this joint project and it will call for us to run a series of tests. Our concerns are with the pyritic sulfur and mineral matter that are involved with finely ground coal.

Approximately 1 ton per hour—that's roughly one-twentieth of the capacity of that facility—would be cleaned in our experimental test runs.

We currently have a series of proposals to undertake this work that were due to us by April 10, and they're being evaluated now for the specific running of the tests that we were interested in with EPRI.

Senator McClure. You are making the determination now based upon proposals that have already been received?

Mr. Vaughan. That have been received, yes, sir.

Senator McClure. When do you expect to make the decision?

Mr. Vaughan. We'll be finished with the evaluation process by late summer and expect to have awards announced probably in September.

Senator McClure. Will the process selections be based in part on cofunding proposals?

Mr. Vaughan. Cost sharing was not an absolute requirement in this but it will certainly be evaluated in the competition. We did not make it a qualifying requirement, however.

Senator McClure. If, as a matter of fact, you are going to consider it as a part of your decision, why didn't you include it in part of the notification to industry?

Mr. Vaughan. It was our judgment at the time that we wanted to run these tests, and we were not sure that we would get a healthy cost-sharing series of proposals. And rather than restrict the field, we decided that the best way to go was to have this as something we would evaluate in the competition, but not make it a requirement.

As you know, if you make it a requirement, you eliminate anybody that doesn't offer the requirement.

Senator McClure. There are a number of other questions, but those bells indicated that the Senate has recessed for the closed briefing on classified information. I think, in view of that, I am going to have to submit the balance of my questions. I will listen for any requests that may be made by other members of the committee for a further open session. If I don't get such requests, I will assume that they will all submit what questions they have by way of written submission.

Senator Byrd was not able to make it today. As you would know, he has more than a passing interest in this hearing and he apologizes for the necessity to stay on the floor but has indicated that he will submit his questions for the record.

Mr. Vaughan. We are aware, Mr. Chairman, that the committee is desirous of getting those answers quickly. I can assure you that we will try to have the written responses for the record back in as rapid a time as we possibly can. I'm aware of the fact that this year has been particularly difficult.

[The information follows:]

STATEMENT OF WILLIAM A. VAUGHAN

The President's fiscal 1986 budget request for fossil energy research and development strikes a balance between the economic urgency of limiting government spending and the technological necessity of maintaining a sound, progressive program of long-range, high-risk, generic R&D.

The Administration is requesting $242.7 million in total Budget Authority for fossil energy research and development in fiscal 1986. Approximately $156.9 million of that amount is for new BA; the remainder is made up of funding available from previous years.

The budget request is divided among the major fossil energy resource categories as follows:

Coal	$ 148.8 million
Petroleum	27.4 million
Unconventional Gas	8.9 million

In addition, $57.6 million is proposed for Program Direction and Management Support at the Department's headquarters, Energy Technology Centers, and Project Offices.

The decisions reflected in this budget request have been made within the context of the urgent national need to reduce federal spending. This overriding fiscal priority has meant, in some cases, that not all legitimate, technologically sound energy concepts can be pursued. For some processes, particularly those in more advanced stages of maturity, it has meant that federal involvement cannot proceed as far down the development path as might be possible under different economic conditions. And for some efforts, particularly those that require major capital outlays for large facilities, fiscal considerations have necessitated that the government offer equipment and facilities in lieu of direct funding.

But these difficult decisions have preserved a fossil energy budget that is both technologically defensible and fiscally sound. The fundamental core of our program — the basic and applied research which we believe represents the most effective and appropriate use of public dollars — remains intact.

We urge the Congress to review this budget proposal within this context, from the perspective of fiscal responsibility as well as with a view towards the prospects offered by the proposed program for long-range technological benefit. Both are equally important to the future wellbeing of this nation.

Major Elements of the FY 1986 Proposed Fossil Energy Program

In examining the Administration's proposals for the FY1986 Fossil Energy program, six major points are particularly important:

(1) Emphasis continues to be placed on developing new, environmentally clean, economically efficient concepts for coal.

Approximately 80 percent of the funds requested for fossil energy research and development (excluding program direction and management support) would be spent to develop new **coal-based** options. This is consistent with the potential offered by this abundant national resource -- coal accounts for more than 80 percent of the nation's recoverable fossil fuel reserves.

However, significant funding has also been made available to gas-related technologies, some of which are included within the coal portion of the budget (i.e., surface and underground coal gasification, gas-stream cleanup, fuel cell research, etc.); and to petroleum-related efforts, where research in advanced process technology, enhanced oil recovery and oil shale has been oriented to more fundamental research that could foster new ideas, and eventually, new processes and technologies.

(2) The proposal contains only those programs which are unquestionably beyond the scope of private sector initiative.

Nearly 65 percent of the fiscal 1986 fossil energy budget proposal (excluding program direction and management support) would be directed at applied research. At this stage, the broad engineering and physical science aspects of fossil energy technologies would be studied. Another 12 percent of the budget would be applied to basic research where the emphasis is on obtaining a more fundamental understanding of physical and chemical mechanisms of fossil fuel processes. The remaining 23 percent would focus on selected projects, including proof-of-concept efforts, that apply knowledge and engineering principles to specific fossil energy devices, systems, materials or processes. This is the final federally funded stage of R&D prior to industry assuming the responsibility for further development and commercialization.

(3) The proposal represents a relatively stable funding pattern for federally sponsored fossil energy research.

While we recognize that the budget proposed for fiscal 1986 is approximately $100 million less than the 1985 Congressionally appropriated level, our request nonetheless represents only an 11 percent reduction from the budget submitted by the Administration last year. Given the severe fiscal constraints that confront the nation, we believe this reduction is well within the boundaries of responsible program management.

(4) The proposed fossil energy program continues to maintain a balanced mix of funding recipients.

The ultimate customer of federally sponsored fossil energy technology is the private sector. In this regard, the fossil energy program continues to emphasize the need to involve private industry and academia as its research partners. In fiscal 1986, under our proposed budget, private industrial and academic research facilities would receive 57 percent of the available funds, as shown in the following chart:

	FY 1986 Proposed Budget ($ in millions)		
Recipient	Coal	Petroleum	Gas
Industry	$ 76.9	$ 27.4	$ 8.9
Colleges/Universities	23.0	2.8	0.4
Private Sector	99.9	30.2	9.3
National Laboratories	17.9	5.1	4.7
In-House R&D & Management Support	63.3	9.0	3.2

5) Emphasis continues to be given to cost-sharing with the private sector.

Private sector financial participation in the fossil energy R&D program serves a dual purpose: one, it gives the government the ability to leverage limited tax dollars while providing a strong indication of industrial support and commitment to a technology; and two, it facilitates the transfer of new concepts into commercial development and application. The FY 1986 fossil energy budget, therefore, continues a strong emphasis on private sector cost-sharing.

Thirty-six individual Fossil Energy programs and projects proposed for nearly $47.5 million of federal funding in fiscal 1986 would, in turn, attract private cost-sharing totaling more than $42 million. (These figures are current projections and could increase further as contracts are negotiated in fiscal 1986.) In addition, the $15 million advance appropriation for the EPRI/TVA fluidized bed demonstration plant (plus an identical amount appropriated in FY 1985) would supplement nearly $190 million to be provided by the private sector.

(6) A major component of the budget continues to be directed at enhancing the environmental acceptability of coal, particularly in light of concerns about acid rain.

The fiscal 1986 budget request continues a strong research program in acid rain related technologies, consistent in scope with the fiscal 1985 effort. The fiscal 1984, 1985, and 1986 funding levels for acid rain related research conducted by the Office of Fossil Energy are shown on the following chart:

FOSSIL ENERGY ACID RAIN PRECURSOR
CONTROL ACTIVITIES

	($ in millions)		
	Actual 1984	Approp. 1985	Request 1986
Control Technology & Coal Preparation	$ 25.6	$ 35.1	$ 27.2
Combustion Systems			
Atmospheric Fluid. Bed	1.4	3.7	2.3
TVA/EPRI Fluid. Bed	0	15.0	15.0
Pressurized Fluid. Bed	7.4	2.5	5.2
Advanced Combustion	1.7	2.0	2.5
Interagency Task Force on Acid Precipitation	.26	.74	.75
Total	$ 36.36	59.04	52.95

In addition to the $52.95 million requested in fiscal 1986 for acid rain precursor control technologies, an approximately equal amount is proposed for technologies (e.g. fuel cells, gasification) that will inherently result in lower sulfur dioxide and/or nitrogen oxide emissions than the conventional technologies they would replace.

The following pages describe in more detail the President's fiscal 1986 budget proposal for fossil energy research and development:

COAL

Control Technology & Coal Preparation

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 25.6	$ 35.1	$ 27.2

The ultimate cost of electricity, process heat, or shaft horsepower is strongly dependent on technologies dealing with coal quality, environmental emissions, and waste disposal. A sound advanced technology base in the interdependent technologies of coal beneficiation, gas cleaning, and waste disposal is necessary to achieve the highest degree of cost effectiveness for the expanded use of domestic coals.

This activity includes four interconnected subactivities: (1) Coal Preparation; (2) Flue Gas Cleanup; (3) Gas Stream Cleanup; and (4) Waste Management.

The coal preparation program is developing advanced coal cleaning technologies that will reduce the ash and sulfur content of U.S. coals to produce a coal-based fuel with sufficient environmental quality to replace oil and/or natural gas in both utility and industrial applications and to reduce emissions of suspected acid rain precursors from coal-fired power plants in both new and retrofit applications. In fiscal 1986, with a proposed budget of $10.3 million, this subactivity would:

- Complete, in cooperation with EPRI at the Homer City, PA, Coal Cleaning Test Facility, the first phase of testing of several advanced physical cleaning processes which have the potential for significant pyritic sulfur removal;
- Complete in-house benchscale testing of physical coal cleaning by selective coalescence and column flotation techniques, and determine readiness for testing at the EPRI Coal Cleaning Test Facility;
- Initiate proof-of-concept (500-1000 lbs/hr) design of a selected continuous coal cleaning system based on results of 20 lb/hr benchscale tests. The selected system would be based either on the fused salt or microwave cleaning concept. Cost sharing is anticipated;
- Complete a study begun with the issuance of a Request-for-Proposals in FY 1985 to determine fully the feasibility of biotechnology (i.e., microorganisms) for removing organic sulfur from coal;
- Begin research on slurry rheology and stability of low-rank coals and pilot plant vacuum filtration test work.

The flue gas cleanup program addresses the removal of pollution causing contaminants from the stack gases of conventional combustion units. The goal is to improve the capability of removing flue gas pollutants in new plants built in compliance with today's emission standards as well as to develop an economic means for reducing air pollutants from existing, uncontrolled coal-fired boilers.

Efforts are focused on advanced processes that combine nitrogen oxide, sulfur dioxide, and particulate removal, both for utility and industrial applications. The FY 1986 budget would be $10.1 million and would:

- Complete the testing and evaluation of the electron-beam/ammonia-producing advanced scrubber concept now being tested at an Indianapolis Power and Light power plant;
- Continue "proof-of-concept" testing of the fluidized bed copper oxide stack gas scrubbing process;
- Continue "proof-of-concept" testing of the low-cost, modest performance acid rain precursor control candidate technologies;
- Continue research on advanced SO_x/NO_x cleanup concepts, thermodynamics, and control techniques for fine particles and volatile organic compounds;
- Conduct advanced SO_x/NO_x chemistry R&D.

Gas stream cleanup includes technologies for removing contaminants from coal gasifier and combustor processes before the gases are used in advanced power cycles such as gas turbines and fuel cells. Both hardware and environmental protection are key elements in this subactivity. Using $5.6 million in requested funds, this program would:

- Complete sub-pilot scale testing of candidate particulate removal (at New York University) and alkali control devices (at Morgantown Energy Technology Center) for pressurized fluidized bed combustors;
- Begin a program to select cleanup devices for "proof of concept" integration with a pressurized fluidized bed combustion system;
- Conduct particulate and alkali cleanup evaluation efforts for coal gasification using pressurized fluidized bed combustion and gasification data as a reference baseline;
- Complete gasification benchscale particulate removal tests and begin sub-pilot scale tests;
- Conduct gasification alkali and H_2S control tests;
- Conduct research to control potential gasification contaminants for molten carbonate fuel cells;
- Complete zinc ferrite sorbent testing for sulfur removal for molten carbonate fuel cells at sub-pilot level;
- Complete testing of soot and particulate control for molten carbonate fuel cells;
- Continue tests of selected concepts for controlling trace contaminants by combustion modifications;
- Continue to investigate chemical and physical properties of contaminants to quantify and qualify specific species of interest.

Waste management research focuses primarily on waste sampling, characterization and disposal with a specific emphasis placed on the wastes produced by advanced technologies being developed elsewhere in the federal fossil energy program. The proposed FY1986 program would be funded at $1.2 million and would:

- Complete the data base for the leachate attenuation of low rank coal wastes;
- Continue research on extracting energy from coal preparation wastes so that the resulting wastes are benign;
- Continue sampling and characterizing organic and inorganic species in solid wastes produced by emerging technologies;
- Continue field studies to monitor advanced coal utilization processes waste disposal sites.

Advanced Research and Technology Development

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 39.0	$ 39.9	$ 32.9

The Advanced Research and Technology Development (AR&TD) budget for fiscal 1986 maintains the Administration's commitment to continuing federally-sponsored research into the fundamental scientific and technical areas that underlie all fossil energy concepts. The apparent decrease in requested funding for fiscal 1986 is due to the budgeting of the Processes subactivity, which focuses on the fundamental mechanisms of converting coal to synthetic liquid and gaseous fuels, with the Liquefaction and Gasification program elements. Congress directed this change in the Conference Report accompanying the fiscal 1985 appropriations act.

The FY 1986 AR&TD program has been fashioned in direct response to research needs identified by the Energy Research Advisory Board, various Fossil Energy research working groups, the National Academy of Sciences, and others.

The AR&TD program is unique in that it addresses specific scientific and technical areas which are more generic than the Fossil Energy line programs, yet which are oriented specifically to long-range Fossil Energy objectives (as contrasted with the non-technology specific nature of the basic research program supported by the Department's Office of Energy Research).

Four major subactivities make up the FY 1986 AR&TD program: (1) Direct Utilization; (2) Materials and Components; (3) Technology Crosscut; and (4) University Coal Research.

The **direct utilization** subactivity involves the study of fundamental properties associated with coal combustion, preparation, slurries, gas cleanup and fuel cell applications. In fiscal 1986, projects in this category would receive $10.9 million and would:

- Continue research in combustion kinetics and pyrolysis, and the formation of SO_x and NO_x in boilers;
- Expand the study of coal preparation and beneficiation science and of novel concepts for pollutant removal in boilers;
- Continue research into ash effects and the fate of mineral matter in coal utilization processes;
- Continue investigation of coal-water slurry rheology;
- Continue studies of fluidized bed particle efflux and erosion;
- Continue studies of pressurized combustion and deposition mechanisms in advanced combustion concepts;
- Conclude prior year studies in hot gas cleanup methods;
- Continue generic electrochemistry studies pertinent to molten carbonate and solid oxide fuel cells.

The materials and components subactivity would be funded at $9.0 million in fiscal 1986 and would:

Materials

- Continue development of techniques for real-time, non-destructive examination of structural ceramics;
- Conduct analysis of the combined effects of cyclic and static stress and environment on the deterioration of coal conversion heat exchanger materials;
- Analyze mechanisms of toughening and crack propagation in ceramic composites;
- Analyze the mechanisms of deterioration of the mechanical properties of refractories by slag;

Components

- Continue research to understand better the mechanisms of discrete particle flow;
- Conduct studies of the stability and rheology of suspension systems such as those occurring in coal-liquid mixtures;
- Continue modeling and scaleup technique development for suspension transport systems.

The **technology crosscut** subactivity provides the necessary studies and evaluations of the Fossil Energy program to ensure that it meets environmental, technical, and economic policy goals. This category provides the funding for the Office of Fossil Energy's participation in the Interagency Task Force on Acid Precipitation and in several activities supported by the International Energy Agency. Projects are also included to develop unique methods of instrumentation, control and diagnostics. In fiscal 1986, these cross-cutting efforts would be funded at $7.0 million and would include:

Environmental Activities

- Analyses of air and water quality, solid waste disposal, and toxic substances as well as services to ensure occupational health and safety;
- Continued research into manmade sources of acid rain precursors as part of the Interagency Task Force on Acid Precipitation;

Technical and Economic Analyses

- Studies to support multi-year planning and Fossil Energy strategy and program formulation, cross-cutting technical/economic assessments, and support of International Energy Agency activities;

Technology Base Synthesis

- Assessments of Fossil Energy programs in support of international projects and agreements and identification of advanced research needs;

Instrumentation, Control, and Diagnostics

- o Exploration of unique methods to measure multiphase flow parameters such as void fraction, velocity, solids content, and viscosity; and identification of techniques such as plasma spectrographic methods to measure chemical species.

The **university coal research program** would be funded for its seventh consecutive year under the fiscal 1986 budget request, and the amount proposed would constitute the largest funding allotment for this activity in the program's history. Some $5.9 million would be made available to:

- o Initiate approximately 30 new university projects related to coal science, environmental science, surface science, organic and inorganic chemistry of coal constituents, and the mechanisms and kinetics of gasification, liquefaction and combustion.

Coal Liquefaction	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 28.8	$ 25.8	$ 19.4

Under the fiscal 1986 budget proposal, the Coal Liquefaction program would continue to add to the federal data base which is available to the private sector to develop processes for converting U.S. coals to liquid fuels.

Coal liquefaction, when combined with petroleum refining technology, could provide direct replacement products for petroleum used in heating and transportation. Innovative improvements will be needed, however, to improve the market potential of liquefaction technologies.

In fiscal 1986, several larger scale "proof of concept" tests will have been completed -- tests of the integrated two-stage liquefaction concept will be concluded in 1985 at the Wilsonville, Ala., test facility; the liquid phase synthesis technique for syngas conversion will have been tested at LaPorte, Tex.; and the production of olefins (which can be converted to diesel fuel) from methanol will have been evaluated at the modified methanol-to-gasoline pilot plant in Germany (using prior year funds).

Consequently, the fiscal 1986 program will focus on more generic, less expensive research primarily at the laboratory and bench scales. Included in this program, for the first time, will be the liquefaction-related efforts previously included in the Advanced Research & Technology Development activity.

Specifically, the fiscal 1986 liquefaction program would be comprised of (1) advanced research; (2) indirect liquefaction; (3) advanced process development (direct liquefaction); and (4) support studies/engineering evaluations.

The **advanced research** subactivity involves fundamental studies of liquefaction budgeted in prior years within the AR&TD program. The proposed funding level for fiscal 1986 is $5.1 million which would be used to conduct studies in:

- Innovative process concepts and techniques for controlling parameters in coal liquefaction and advanced catalysis;
- Biological approaches to coal liquefaction;
- New and evolving concepts in catalyzing coal liquefaction reactions, such as the use of immobilized homogeneous catalysts and cluster catalysts.

The objective of the **indirect liquefaction** program continues to be to develop the basic concepts for converting high carbon monoxide content synthesis gas (typical of the gas produced by advanced coal gasifiers) into quality fuels, preferably without the extensive downstream processing required in the past. In fiscal 1986, this subactivity would be funded at $4.4 million and would include:

- Continuation of previously awarded cost-shared industrial indirect liquefaction contracts that have shown encouraging results;
- Continued laboratory research to expand the knowledge of catalyst and reaction systems.

The **advanced process development** subactivity continues to support innovative improvements in direct coal liquefaction that could significantly reduce costs. With a substantial data base now existing for the integrated two-stage liquefaction concept following four years (fiscal 1982-85) of testing at the Wilsonville unit, this $5.6 million subactivity in fiscal 1986 will focus on:

- Continued laboratory and benchscale research on innovative direct liquefaction concepts such as "co-processing" of coal with heavy petroleum oils. Co-processing research, begun by the Department last year, could lead to cost reductions and accelerated introduction of coal-derived fuels into the market by using petroleum refining technology and equipment.

The **support studies/engineering evaluations** subactivity would receive $4.3 million in fiscal 1986 which would be directed at:

- Biomedical studies with an emphasis on the products of "co-processing" (see Advanced Process Development);
- Liquefaction data base management, research guidance studies and instrument and component research;
- Research emphasizing solvent quality characterization, reaction kinetics, and catalyst deactivation.

Combustion Systems	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 18.1	$ 30.2	$ 29.2

Generic technology base development on advanced coal and coal-derived combustion concepts is the focus of the Combustion Systems activity. This research will help establish the technology base from which industry can develop and deploy improved coal utilization systems that are compatible with national environmental objectives. The principal programs in this activity are (1) atmospheric fluidized bed combustion, (2) pressurized fluidized bed combustion, (3) advanced combustion technology, and (4) alternative fuels.

The **atmospheric fluidized bed combustion** program, proposed for funding at $17.3 million in fiscal 1986, is comprised of these major elements:

- The Tennessee Valley Authority/Electric Power Research Institute fluidized bed demonstration plant. The Department is providing $15 million in FY 1986 for support of test plans and data from plant operations using a deferred Congressional fiscal 1984 appropriation;
- Solicitation of concepts for special applications in commercial/institutional and residential markets;
- Benchscale testing of advanced concepts, in-house studies and data evaluation, and special application studies.

The **pressurized fluidized bed combustion** program would be funded at $5.2 million in fiscal 1986. Emphasis will continue to shift from first-generation steam-cooled systems to more advanced cycle concepts, although the Department will maintain a technology base activity to resolve key technical uncertainties for the earlier systems. Elements of the program to receive specific attention are:

- Metal wastage investigations to verify the mechanisms and kinetics of coal/sorbent combustion products, particle energies and materials survivability;
- A cost-shared program at the Grimethorpe test facility in Great Britain to test key critical PFB process components for reliability and operability in support of first-generation systems;
- Award of a cost-shared contract for a definitional study of a high efficiency, second-generation PFB system which could improve process economics, reliability, operability and environmental performance.

The **advanced combustion technology** program is attempting to fire coal or coal-liquid mixtures directly in existing or new oil/gas designed boilers and process heaters with a minimum of derating. The successful outcome of this effort will depend on the success the program has in removing the ash (or slag) from the coal-based fuel in a precombustion stage, as well as sulfur removal at some point in the combustion system. In FY 1986, this effort would be funded at $2.5 million and would:

- Complete the design of a retrofit external slagging combustor (AVCO concept);
- Complete testing of an advanced slagging combustor (TRW concept);
- Complete a market study and economic analysis of advanced combustor potential;
- Complete testing of the most promising innovative concepts;
- Select and begin testing concepts most applicable to commercial/residential uses.

The **alternative fuels** program objective is to establish the technology base, specifically in the area of combustion phenomena (as contrasted with fuel preparation) for coal-liquid mixtures. With the federal portion of the data base now essentially complete for coal-water mixtures applied to large industrial and utility boilers, the effort, proposed for funding at $4.2 million in fiscal 1986, would:

- Begin generic combustion characterization for coal-liquid mixtures comprised of ultra clean, micron-size coal. These fuels could be most suitable for small industrial, residential, commercial and institutional boilers/furnaces.

Fuel Cells

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 42.3	$ 40.8	$ 9.3

Fuel cells are electrochemical conversion systems which are highly efficient, fuel flexible, modular, and environmentally attractive. The potential exists to apply fuel cell power systems to central baseload electric utility plants, on-site cogenerating systems, transportation and defense installations. The role of the federal government in this technology is viewed as most appropriately focused on high-risk, high-payoff technology base development, as well as assisting industry in developing techniques to apply hydrocarbon conversion technology to this power generating concept.

Three subactivities make up the fuel cell program: (1) Phosphoric Acid Systems; (2) Molten Carbonate Systems; and (3) Advanced Concepts.

More than $300 million in federal funding invested during the last 10 years has helped establish the technical feasibility of **phosphoric acid** fuel cells powered by natural gas and naphtha. By 1986, the technology for the phosphoric acid fuel cell will have advanced well beyond the "proof-of-concept" stage; therefore, the Department believes that continued development or commercial demonstration should be the responsibility of industry and has proposed no federal funding for this activity.

Advanced "second-generation" molten carbonate fuel cell technology trails phosphoric acid development by several years. Nonetheless it offers the potential for increased efficiency and reduced costs. To continue the federal role in developing this type of fuel cell, the Department proposes to spend $6.4 million in fiscal 1986 to:

- o Begin verification testing of molten carbonate fuel cell performance in full area short stacks;
- o Conduct technology base research on the tolerance of fuel cell electrodes to contaminants and corrosion that could be possible when the system is linked to a coal gasifier;
- o Conduct initial verification of the suitability of cathode materials.

Advanced concepts for fuel cells principally include the solid oxide electrolyte concept which offers the advantage of solid state stability and potentially low manufacturing costs. Efforts to develop this concept would be funded at $2.9 million in fiscal 1986 and would focus on:

- o System studies to verify economic viability and studies of fuel cell fabrication technology;
- o Continued R&D to qualify a 5 kilowatt preprototype module through a 10,000+ hour test run;
- o Start of a modest effort to study internal fuel reforming in solid oxide cells.
- o Selected technology base efforts;

Heat Engines

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 6.5	$ 11.9	$ 11.4

Directly firing a highly-beneficiated, finely ground coal, either dry or suspended in a liquid, or a coal-derived gas cleaned at minimal cost is the long-term goal of the Heat Engines program. If this objective can be achieved, coal could penetrate the gas turbine market, with its inherent advantages of efficient, low-cost and highly-flexible power generation, or the diesel power market which has been penalized by rising distillate fuel costs.

To establish the technical data base needed for the use of coal in these applications, the fiscal 1986 program, budgeted for $11.4 million, would:

- o Establish reference fuel quality specifications for integrated development of coal-fired gas turbine components;
- o Define design and performance boundary conditions for integrated gas turbine component development and test program;

- o Establish basic design and fuel criteria for preliminary design, development, and test evaluation of coal-fired diesel components; and
- o Complete preliminary analyses of coal-fired diesel engines in selected propulsion and stationary power applications.

Underground Coal Gasification

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 6.0	$ 5.8	$ 4.3

Underground coal gasification is a method of producing readily cleanable fuels by gasifying seams of coal "in situ" (in place) without mining. The potential exists to greatly expand U.S. coal usage while providing fuels at lower costs and with less adverse environmental impacts than other conventional or synthetic fuel options.

The Department's underground coal gasification program consists of two subactivities: (1) gasification technology development, and (2) environmental and advanced research.

Successful completion of gasification technology base activities for underground gasification of medium-ash, subbituminous coal beds has brought the technology to the point where industry is prepared to move forward with a substantial cost-shared test. This aspect of the underground gasification program, therefore, would be funded at $2.5 million in fiscal 1986 with the principal objectives of:

- o Completing the installation of field facilities for a 100-day, parallel row field test (using the Controlled Retracting Injection Point process) in subbituminous coal. Tests to be equally cost-shared with industry funds provided through the Gas Research Institute;
- o Modeling and supporting research for the subbituminous field test and the investigation of applications of the data to other coal types;
- o Continuation of international technology transfer.

Some generation of contaminants is inherent to the partial combustion and gasification of coal underground; therefore, the Department is continuing a significant effort in environmental and advanced research. In fiscal 1986, this subactivity would be funded at $1.8 million and would involve:

- o Post-burn environmental monitoring and mitigation efforts in conjunction with state environmental quality agencies;
- o Determining how (and what) pollutants migrate to adjacent aquifers and developing mitigation strategies.

Magnetohydrodynamics

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 29.9	$ 31.0	$ 0

The Department proposes to phase out federal funding for the Magnetohydrodynamics (MHD) program beginning in fiscal 1985. The MHD program is a costly, long-range, high-risk effort. The high costs of large-scale engineering facilities necessary to prove the technical concept of this advanced power generating option makes MHD an unaffordable option during a time of severe fiscal constraints.

To facilitate the phase out of the Department's efforts, plans will be made in fiscal 1985 to make the large amount of Government-owned equipment and facilities available to the private sector in a manner that will permit industry to continue the development of the technology if it so chooses. The federal government has invested approximately $100 million in the Component Development and Integration Facility in Butte, Montana, and nearly $50 million in the Coal-Fired Flow Facility in Tullahoma, Tennessee. Overall, more than $500 million has been spent by the federal government in the last decade on MHD research. These government-financed facilities, plus the substantial technology base developed through federally-sponsored projects, should provide the private sector with the necessary information to make future development decisions about this technology.

Surface Coal Gasification

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 36.5	$ 32.0	$ 15.0

Through gasification, coal can be used for the manufacture of fuel gases having heating values that range from low/medium-Btu fuel gas for industrial and electric utility uses to high-Btu, pipeline-quality gas that can supplement supplies of natural gas. Gasification technology also can be used to produce a synthesis gas for subsequent conversion into a variety of liquid fuels or chemicals.

The Department's Surface Coal Gasification program is assisting industry in advancing the state-of-the-art of coal gasification through several parallel efforts. A technology data base is being developed which will permit the private sector to conduct normal risk assessments upon which to base commercialization decisions. Existing gasification systems are being refined through a generic research and development program, and new concepts are being examined through small-scale reseearch and engineering tests.

Five major subactivities make up the Surface Coal Gasification program: (1) Advanced Research (which was budgeted within the Advanced Research & Technology Development program in past fiscal years); (2) Advanced Process Development; (3) Systems Engineering Concepts; (4) Environmental Studies and Engineering Analyses; and (5) Great Plains Gasification Project monitoring.

The advanced research subactivity produces the fundamental data on gasification phenomena (i.e., reaction mechanisms, kinetics, physical properties, yields, heat rates, thermodynamics, etc.) needed to identify potential new approaches to gasifying coal. Projects in this category also contribute essential information for the preparation of a sound data base. The proposed funding level for fiscal 1986 is $3.5 million which would be used to conduct studies in:

- Coal softening, including modeling of mass transfer, and ash softening, including ash agglomeration, reaction kinetics, and mechanisms;
- Gasification modeling incorporating multiphase flow, coal and ash softening and agglomeration, and heterogeneous reactions;
- Heating rates for pyrolysis with the objective of developing an integrated model to predict coal pyrolysis phenomena from raw coal measurements;
- Novel approaches to gasification and gas separation;
- Catalytic upgrading of synthesis gas to enhance hydrogen recovery;
- Kinetics of coal devolatilization using computer models, and the effects of temperature and pressure on fines production in fluid bed reactors;

The major objective of the advanced process development effort is to continue the development of new and unique concepts that can significantly improve the gasification process. Particular emphasis is being placed on reducing the number of processing steps, optimizing existing technology, and increasing the flexibility and/or applicability of the gasification process. Proposed for funding at $3.3 million in fiscal 1986, this effort will:

- Continue operation of an advanced gasification concepts facility to generate data on advanced entrained gasification and hot gas cleanup technology;
- Continue investigation of high pressure, high temperature fluidized bed gasification;
- Continue studies of advanced coal gas cleanup processes and investigate applications of new coal chemistry techniques.
- Continue studies to identify and determine the potential for separating complex gas mixtures with the objective of selectively removing impurities;
- Continue studies on advanced stage concurrent or rapid rate gasifiers/gasification processes that could vary or optimize product yields;
- Continue theoretical studies on coal gasifiers and gasification systems needed to design an optimized systems/technology data base.

Improving the entire gasification system — from the "upstream" production of gasification reactants, such as oxygen, to the "downstream" cleanup of the synthetic gas — is the objective of the **systems engineering concepts** subactivity. With a proposed funding level of $3.2 million, the fiscal 1986 efforts in this category will continue:

- Development of a solid state electrolyte (zirconia) oxygen separator concept;
- Identification, development and evaluation of hybrid gasifiers (e.g., two-stage pyrolysis/gasification, gasification/combustion gasifiers, etc.);
- Studies of innovative techniques for in-line measuring of process parameters/gas compositions essential to process control and evaluation;
- Benchscale studies of high-pressure systems using composite sorbents for cleaning gas streams;
- Development of promising alternative concepts for existing components, units, systems, etc. that have high failure rates or high capital and maintenance costs;
- Novel fabrication techniques that could reduce construction costs of gasification facilities;
- Studies on the integration of gasifiers/gasification technologies with other conversion systems to determine optimum configurations and to identify future R&D needs.

An important source of fundamental data for future gasification facilities is being generated today by the **environmental studies and engineering analyses** subactivity. Using $2.2 million in proposed fiscal 1986 funding, this effort would:

- Identify and develop process modifications to reduce the generation of trace hazardous compounds;
- Continue studies on environmental aspects of coal gasification, including waste water management, effluent control systems, and the impact of gasification plant environments on worker health;
- Continue study of novel approaches to using micro-organisms for removing trace amounts of organic contaminants in waste water;
- Continue to improve quality of data base and analytic models and increase the ability of end users to analyze new systems.

The **Great Plains Coal Gasification Project** is expected to be in full operation during fiscal 1986, having passed several start-up milestones in 1984 and 1985. The initial synthetic natural gas from this pioneering, commercial-scale facility was delivered to the pipeline on July 28, 1984, and since October 16, 1984, synthetic natural gas has been fed daily into the pipeline grid. The proposed $2.8 million funding level for this activity would:

- Continue management of the loan guarantee and the monitoring of the Great Plains Project.

PETROLEUM

Advanced Process Technology

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 5.0	$ 5.4	$ 5.8

The goal of the Advanced Process Technology (APT) program is to identify and develop crosscutting advanced extraction, processing, and environmental concepts and technology related to oil, gas, tar sands, and shale. Major programs include the investigation of novel and innovative extraction concepts as well as fundamental petroleum chemistry and extraction technology research or reservoir rock mechanics. Crosscutting advanced environmental research is also conducted to mitigate potential environmental constraints to the development of oil and gas technology. Specific initiatives are also being pursued to establish an Alaskan Arctic oil and gas data base and to provide industry with data on ice mechanics, seafloor stability, and permafrost that could accelerate Arctic oil and gas development.

Two major subactivities make up the APT program: (1) Advanced Exploratory Research; and (2) Arctic and Offshore Research.

The **advanced exploratory research** category would be funded at $4.7 million in fiscal 1986 and would include:

- Basic research into the novel use of micro-organisms to enhance oil recovery and field tests of promising microbes to determine nutrient requirements, transport characteristics, and oil release mechanisms;
- Fundamental petroleum chemistry research focusing on physical and chemical characterization studies of heavy oil;
- Thermodynamic measurements of individual nitrogen compounds in petroleum; studies of shale oil and tar sand bitumen degradation mechanisms and upgrading process studies and cooperative efforts with DOD to identify and solve fuel storage and handling stability problems;
- Extraction technology research focusing on reservoir characteristics and advanced instrumentation development;
- Extraction related studies to mitigate aquifer damage and subsidence problems;
- Fuels testing research, correlation of fuels composition and processing needs, and predictive modeling of process to composition.

The **arctic and offshore research** program, proposed for $1.1 million in fiscal 1986 funding, would:

- Continue to update and maintain the Arctic/offshore oil and gas research data base;
- Conduct fundamental ice research to characterize size, composition, degree of consolidation, temperature and salinity profiles.

Enhanced Oil Recovery

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 9.2	$ 11.8	$ 12.0

For the past 30 years, private industry has researched various enhanced oil recovery (EOR) techniques with mixed results. Because of the complexities of the subsurface behavior of injected fluids and chemicals, none of the EOR processes are well understood. While industrial research has concentrated on short-term, resource-specific targets, DOE's research program is oriented toward more fundamental, generic research which can improve the understanding and predictability of EOR processes.

Successful results from DOE's program could return substantial national benefits. Total crude oil resources in the U.S. are estimated at 481 billion barrels. Nearly 130 billion barrels have already been produced, and another 28 billion barrels are accessible through conventional primary and secondary production methods. Thus, two-thirds of the oil, approximately 323 billion barrels, will remain in the ground if no improvements can be made in today's conventional production technology. This, therefore, is the opportunity offered by EOR research.

Generic technology base R&D activities in the EOR program are divided into three subactivities: (1) Heavy Oil; (2) Light Oil; and (3) Tar Sands:

The **heavy oil** program would be funded at $2.9 million and would:

- Conduct theoretical studies of multiphase fluid flow using steam with foam for mobility control;
- Conduct research focusing on computer simulation of steam with additives and kinetics of oxygen-enriched in situ combustion;
- Continue mutually beneficial research with Venezuela and Mexico;
- Maintain heavy oil resource and thermal recovery national data base.

The **light oil** program, proposed for $7.7 million in FY 1986, would:

- Continue fundamental research into chemical and physical properties of surfactants;
- Conduct research focusing on CO_2 displacement mechanisms, mobility control, viscous fingering and mobilization of trapped oil by CO_2 and foam flooding/diverting concepts;
- Study geological parameters impacting EOR including determination of residual oil saturation in zones where EOR fluids can be injected; and micro- and macroscopic heterogeneities that cause channeling around residual oil;
- Conduct rock-fluid interaction studies including chemical adsorption and desorption, relative permeability, wettability effects, ion-exchange characteristics, surface chemistry, and chemical potential of sedimentary rocks;

- Maintain an integrated program of basic research at universities;
- Develop and maintain national EOR and light oil reservoir data bases.

The tar sands effort would be funded at $1.4 million and would:

- Continue joint research with Canada, including joint field tests, to study remote tracking of thermal fronts;
- Continue tests on large blocks of consolidated tar sands to determine oil production under a range of conditions;
- Continue fundamental studies on extraction, upgrading, kinetics, and environmental mitigation.

Oil Shale

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 16.1	$ 14.8	$ 9.7

The goal of the Department's oil shale R&D program is to develop a sound technology base to assist industry in selecting, developing and commercializing new technologies.

The oil shale resource in the U.S. is estimated to be the equivalent of two trillion barrels of crude oil. The richest reserves lie in the states of Colorado, Utah, and Wyoming in areas of high environmental sensitivity. Eastern shales are receiving increased industrial interest. Preliminary results from both government and industrial research indicate that the potential exists for substantial increases in liquid product yields through the use of advanced fluid bed or other novel process concepts. Therefore, in fiscal years 1983 and 1984, the Department conducted studies of the environmental chemistry involved when various eastern shales are processed. However, the overall processing chemistry and kinetics of eastern shales is poorly understood; therefore, in 1985, the program began to focus on developing a more complete understanding of eastern shale processing to place the environmental studies in a more meaningful framework.

The primary emphasis throughout the refocused oil shale program is on long-range, high-risk technology base research that is oriented around two basic subactivities: (1) Oil Shale Technology Base, and (2) Environmental Mitigation.

The oil shale technology base research effort would be funded at $5.8 million and would:

- Develop a systems analyses capability from mining to spent shale disposal;

- Continue experiments with both western and eastern shales using two reference retorts (one at the Morgantown Energy Technology Center; the other at Lawrence Livermore Laboratory) to provide data for modifying and developing chemical, physical, and economic models of generic, moving bed processes;
- Continue development and maintenance of an oil shale data base;
- Continue experiments to evaluate, modify, and/or develop predictive models for oil shale fragmentation and low-void retorting.

The **environmental mitigation** program would receive $3.9 million in fiscal 1986 and would:

- Continue to develop siting methodology;
- Continue development of the environmental data base;
- Conduct research on nitrogen emissions and the capture of sulfur by oil shale compounds under varying process conditions;
- Identify and measure major and trace element emissions in gases, liquids, and solids from reference retorts as a function of process parameters;
- Continue studies of critical questions associated with codisposal and spent shale pile stability.

UNCONVENTIONAL GAS

Unconventional Gas Recovery

	FY 1984	FY 1985	FY 1986
(Dollars in Millions)	$ 15.4	$ 10.2	$ 8.9

Natural gas currently supplies about 25 percent of the total energy consumed in the U.S.; however, for almost 10 years, the annual addition of gas reserves from new discoveries has been less than the withdrawals from existing reserves. In 1981, the trend was reversed, with additions surpassing withdrawals due to increased exploration resulting from partial decontrol of gas prices. Considerable conventional shallow and deep gas may be available for immediate use. Additional gas supplies, resulting from successful research on unconventional resources, combined with this conventional gas, could supply much of the nation's gas needs for well into the next century.

These unconventional sources of gas include eastern Devonian gas shales, western gas sands, methane from coalbeds, gas hydrates, and deep source gas. To provide a sound technology base for these potential sources, the Department's unconventional gas program is categorized by three major elements: (1) Eastern Gas Shales; (2) Western Tight Gas Sands; and (3) Environmental and Advanced Research.

The **eastern gas shales** effort would receive $1.0 million in fiscal 1986 which would be sufficient to:

- Drill a directional borehole at the second offset well test facility at a site to be selected in fiscal 1985;
- Continue development of the Eastern gas shale production data base and continue model refinement activities.

The **western tight gas sands** program, to be funded at a proposed $5.6 million would:

- Continue fracture stimulation research and production testing of a lenticular tight sands reservoir;
- Continue geologic/engineering studies of Uinta and Greater Green River basins;
- Continue supporting research in modeling, fracture diagnostics, and geophysical instrumentation.

The **environmental and advanced research** program would be funded at $2.3 million and would focus on:

- Resource identification and evaluation of gas hydrates;
- Geophysical diagnostic tests of gas hydrates on the North Slope of Alaska;
- Deep source gas research involving detection/differentiation systems and the mechanics of subduction zones.

PROGRAM DIRECTION AND MANAGEMENT SUPPORT

	(Dollars in Millions)		
	FY 1984	FY 1985	FY 1986
Operating Expense	$ 46.0	$ 43.0*	$ 50.6
Construction	1.6	4.4	3.0
Capital Equipment	5.0	4.9	4.0
	$ 52.6	$ 52.3	$ 57.6

* Net of $3,174,000 resulting from reductions under Section 2901 of the Deficit Reduction Act of 1984 (P.L. 98-369).

The Program Direction and Management Support program includes management support for Headquarters and Energy Technology Center's program direction, capital equipment needs, and construction.

The Fossil Energy headquarters staff is responsible for overall direction for the coal, petroleum and gas research and development program. In carrying out this responsibility, the headquarters staff implements DOE policy and communicates that policy to the Energy Technology Centers and the Bartlesville Project Office, sets program objectives, develops program plans and evaluates alternative program strategies, develops and defends budget requests, approves procurement plans, and monitors work progress, evaluates projects, and approves revisions in work plans as required to attain program goals.

A total of 402 full-time equivalent (FTE) personnel are financed in the Program Direction and Management Support budget request, including 125 FTE's at Headquarters and 277 FTE's in the fossil energy field organizations. These positions carry responsibility for the management of multiple R&D program activities. An additional 197 FTE's, assigned solely to specific programs or projects, are funded as direct expenses within the individual program budgets.

The major elements of this line item are:

Management Support ....$ 50.6 million

-- Headquarters and ETC program direction;
-- Overhead expenses generic to the entire FE program which were financed in previous years by program assessments, i.e., technical report printing, historically black college funding allotment, small business innovative research funds, and general management support.

Institutional Investment ....$ 3.0 million

-- Provides for centralized funding for Fossil Energy-related capital equipment needs at the Energy Technology Centers, National Laboratories, and the Bartlesville Project Office.

Construction ....$ 4.0 million

-- Provide for general plant projects at ETC's.

DEPARTMENT OF ENERGY
FY 1986 CONGRESSIONAL BUDGET REQUEST
SUMMARY OF ESTIMATES BY APPROPRIATION BY MAJOR ACTIVITY
FOSSIL ENERGY RESEARCH AND DEVELOPMENT
(In thousands of dollars)

	FY 1984 Actual		FY 1985 Estimate		FY 1986 Request	
	B/A	B/O	B/A	B/O	B/A	B/O
COAL:						
Control Technology and Coal Preparation	25,640	25,562	35,068	32,118	27,249	31,535
Advanced Research and Technology Development	38,996	38,880	39,924	36,560	32,872	38,043
Coal Liquefaction	28,800	23,696	25,815	29,643	19,386	25,864
Combustion Systems	18,080	18,026	30,218	21,439	29,243	31,483
Fuel Cells	42,310	42,183	40,811	37,380	9,342	10,812
Heat Engines	6,475	6,456	11,948	10,943	11,372	13,161
Underground Coal Gasification	6,000	5,982	5,753	5,269	4,260	4,930
Magnetohydrodynamics	29,867	29,777	30,977	28,372	...	5,000
Surface Coal Gasification	36,541	36,431	32,011	29,319	15,028	17,393
Subtotal Coal	232,709	226,993	252,525	231,043	148,752	178,221
PETROLEUM:						
Advanced Process Technology ..	5,000	4,985	5,409	4,954	5,778	6,687
Enhanced Oil Recovery	9,150	9,122	11,801	10,809	11,972	13,855
Oil Shale	16,050	16,002	14,751	13,511	9,675	11,197
Subtotal Petroleum	30,200	30,109	31,961	29,274	27,425	31,739

GAS:						
Unconventional Gas Recovery ..	15,400	15,354	10,227	9,367	8,872	10,268
PROGRAM DIRECTION AND MANAGEMENT SUPPORT:						
Program Direction and Management Support	53,163	52,525	52,347	49,325	57,622	64,614
Subtotal Fossil Energy R&D	331,472	324,981	347,060	319,009	242,671	284,842
FY 86 Prior Year Recoveries	...	...	...	...	-6,000	...
Prior Year Offsets	-27,326	...	-49,089	...	-60,838	...
Appropriation Transfers	-42,040	...	-11,300	...	-3,924	...
FY 85/86 Approp. made in FY 84 .	...	...	-15,000	...	-15,000	...
Proposed Section 2901 Rescission	...	...	3,276	...	...	...
TOTAL	$252,106	$324,981	$274,947	$319,009	$156,909	$284,842

-ADDENDUM-

The Committee has also asked that the Department include testimony describing the recently prepared REPORT TO CONGRESS ON EMERGING CLEAN COAL TECHNOLOGIES. The following is in response to that request.

Seven months ago, as part of its Continuing Appropriations resolution, the Congress directed the Department of Energy to solicit indications of the private sector's interest in emerging clean coal technologies.

On May 1, 1985, following the evaluation of 175 responses, the Department of Energy delivered to the Congress a 271-page report in response to the Congressional directive. The report represents the product of more than 12,000 cumulative hours of professional staff involvement within the Office of Fossil Energy — the largest single effort to produce a Congressional report ever undertaken by this office. The report has received the personal attention of Energy Secretary John S. Herrington and reflects both the Secretary's and the Administration's commitment to be fully responsive to Congress in this matter.

BACKGROUND — ANALYSIS PROCEDURES

Following enactment of Section 321 of Public Law 98-473, the Department published a Program Announcement in the Federal Register on November 27, 1984, requesting information on emerging clean coal technologies. Simultaneously the Department issued a press announcement describing this effort to more than 250 general, trade, and broadcast media outlets. On December 7, 1984, an insert was also placed in the Commerce Business Daily which called attention to the Department's interest in receiving clean coal technology information.

NOTE: Several submitters identified part or all of their submissions as confidential and proprietary business information. To protect the submitters' material and to provide a complete report to Congress, all the confidential and/or proprietary submissions have been included in a supplemental volume that has been made available to the Congress.

Together, these actions were intended to maximize public awareness of the Department's clean coal technology announcement. By the February 15, 1985 deadline (which had been extended from January 18, 1985, in response to a request of the Congress), 167 statements of interest and informational proposals had been received from industry.

Once the deadline had passed for receipt of responses, it became evident that several submissions were still being prepared and would continue to arrive at the Department at later dates. To ensure that the Department's report to Congress was as complete as possible, I directed the Fossil Energy staff to incorporate the late responses into the report if this could be done without jeopardizing the preparation schedule.

In total, therefore, the Department had received 175 submissions at the time the report to Congress was prepared. A subsequent submission was received too late to be analyzed but is included in the summary portion of the report.

While many of the logging and tracking procedures were similar to a formal procurement evaluation, the Department could not adhere rigidly to competitive procurement guidelines. Since the Department neither requested nor was appropriated funds for any of the proposed activities, we made it clear to the submitters that they could not be reimbursed for any expenses they might incur in responding to the Department's announcement.

A senior staff team, made up of Fossil Energy Office Directors, was formed to sort the submissions upon receipt, assign them to the appropriate analysis team and provide specific instructions and guidance. Three separate analyses teams were formed, each led by a member of the Senior Executive Service.

These teams mirrored the major coal-related technical office subdivisions within the Office of Fossil Energy:

Coal Utilization Systems
Surface Coal Gasification Systems and
   Advanced Conversion Systems
Underground Coal Gasification and Coal Liquids.

For each team, technical and analytical skills were drawn from Fossil Energy personnel at Headquarters and the Morgantown and Pittsburgh Energy Technology Centers. The Offices of General Counsel and Procurement Support participated on a consulting basis. No personnel outside the employ of the Department participated in or had access to the review process in any way.

Having completed the required actions under Section 321 of P.L. 98-473, we would now like to explain our next steps in the clean coal area and the approach the Secretary has asked us to undertake. Our general approach will be to provide fuller characterizations of clean coal technologies using such information as the Section 321 submissions, information gained from our ongoing budget activities, the recent clean coal report by the Energy Research Advisory Board, and other general background material .

Specifically, the first effort will be to establish criteria against which the technologies could be evaluated. These criteria will include such things as environmental promise, cost, stage of development and scientific feasibility to name a few. Second, the technologies will then each be evaluated against the criteria. The pros and cons for each of these technologies will then be explained.

All of this additional information will be compiled into a final report and submitted to the Congress.

I believe that such an effort will be helpful to the Department, the Congress, and the coal industry in determining the most productive approaches for development of clean coal technology.

SUMMARY OF RESPONSES

As indicated earlier, 175 responses were received, with project values totalling in excess of $8 billion. Sixteen of the submissions did not propose specific projects but instead provided general information or support for individual projects or groups of projects, or endorsed the program in general.

Responses were received for every Fossil Energy coal technology program except one, waste management. Organizations in 28 states and the District of Columbia submitted statements of interest or informational proposals.

One hundred and five of the submissions identified specific locations for their proposed projects. The sites were located in 29 states.

The following table summarizes the submissions received by category of technology:

Technology	Number of Submissions
Flue Gas Cleanup[1]	31
Fluidized Bed Combustion[2]	27
Surface Coal Gasification	27
Coal Preparation	22
Heat Engines[2]	13
Advanced Combustion	10
Alternative Fuels	8
Fuel Cells	8
Coal Liquefaction	5
Underground Coal Gasification	4
Gas Stream Cleanup	2
Magnetohydrodynamics	2
Non-Technology Specific	16
	175

[1] One submitter proposed two projects, so that the total number of proposed projects is 32.

[2] One proposal was evaluated in two categories (Fluidized Bed Combustion and Heat Engines) because it contained technology development in both areas.

Flue Gas Cleanup

Of the 32 projects described in this category, 14 concentrated on in-boiler sulfur dioxide control using sorbents. Seven submissions were received on dry waste flue gas desulfurization processes. Five submissions described regenerable flue gas desulfurization processes and the remaining six represented a variety of miscellaneous approaches.

Most of the submissions were targeted at the large utility boiler market (the one exception was a coal-fired cogeneration process for the pulp and paper industry).

The requested federal incentives, with one exception, were for direct funding. The one exception asked instead for an innovative technology waiver of sulfur dioxide New Source Performance Standards for two new 572 MWe plants in return for installing the limestone injection multistage burner technology.

In two of the submissions, work has already been performed or likely will be completed regardless of federal funding. For 13 of the proposed projects that are similar to existing privately-funded ones, an argument was made for multiple demonstrations in order to provide greater confidence. Lastly, several submitters stated that their projects would not be initiated at all in the absence of federal support.

Advanced Combustors

Ten submissions were for projects that addressed advanced combustor technology. These submissions varied significantly in cost, duration, size and type of coal to be used; however, the projects could be grouped into two general categories: three submissions proposed relatively mature slagging combustor designs for utility retrofits, while seven projects would use less mature concepts that require further development before they would be ready for demonstration.

Proposed federal assistance was in the form of direct cost-sharing. Where justification for federal support was provided, it entailed the unavailability of private funds and the need to minimize risks for the first users of the technology.

Fluidized Bed Combustion

In the Atmospheric Fluidized Bed Combustion (AFBC) area, 21 responses were received (one was received too late for analysis and is included only in the summary section of the report).

Ten projects were targeted at utility applications at scales of 20 MWe to 235 MWe. Four would apply the circulating AFBC concept, three would use the bubbling bed AFBC concept, and three indicated that a decision between the two concepts had not yet been made.

Four projects were proposed at the industrial scale, i.e., 200,000 to 500,000 lb/hr of steam production. Three would apply the circulating bed technology to generate steam or for cogeneration, while one proposed the bubbling AFBC concept.

Six statements of interest were received for projects that did not fit in either the utility or industrial categories or were for research and development efforts. One additional project was designated as proprietary information by the submitter.

Many of the AFBC submissions did not provide justification for the federal incentives proposed, but those that did offered the following rationale for government funding support: (1) the hurdle of the significant capital cost differentials between atmospheric fluidized bed combustors and proven alternative technologies, (2) the need to offset partners' financial commitments and not as a condition to complete the project, and (3) in the case of immature technologies, to pay for the risks involved.

Six submissions were received in the Pressurized Fluidized Bed Combustion (PFBC) Technology area. Three were for steam-cooled combined cycle and turbocharged boiler systems, two were for advanced circulating fluidized bed PFBC technology, and one was to operate a federally-funded air-cooled circulating bed pilot plant which is currently being dismantled (the 13 MWe Wood Ridge, NJ, PFB pilot plant).

The submissions describing steam-cooled combined cycle projects stated that federal incentives would help offset the technology risk and initial high costs of repowering or retrofitting existing utility boilers. The project proponents state that demonstration of PFB technology under actual utility operating conditions and scale is essential to determine its performance and economics.

The three proposers suggesting circulating PFBC combined cycle concepts each identified further research that would be conducted at units considered to be at the pre-demonstration plant scale. This research would be necessary before scale up could occur.

Coal Preparation

Although 22 submissions were received in the category of Coal Preparation, only seven proposed demonstration projects. The remaining 15 were for technologies at scales less than demonstration.

Three of the demonstration projects were labeled as proprietary. The others proposed to clean coal with (1) microbubble column flotation followed by high speed centrifuge dewatering; (2) physical cleaning techniques, followed by hot water drying, and acid extraction; (3) high gradient magnetic separation; and (4) a combination of physical and microbial cleaning techniques.

The federal incentives requested were almost exclusively direct funding and were deemed necessary by the submitters (1) because internal funds were not available to support a demonstration project; and (2) to make the technology available to the industry by the late 1980s.

Alternative Fuels

Eight submissions were received in the alternative fuels category, and all involved the application of coal-water mixture technology. Two of the submissions were identified as "Confidential Proprietary Information" by the submitters, and one did not propose a specific project.

The remaining five projects proposed (1) the development of a slurry fuel by applying the oil agglomeration beneficiation technique, (2) the use of a model to study and maximize the efficient use of coal in a blast furnace, (3) the development of a coal-water-mixture/natural gas co-firing fuel with a sulfur absorption additive, (4) the development of a coal-water mixture fuel containing sulfur captor compounds, and (5) the assessment, retrofit and operation of a gas-fired utility boiler using a coal-water mixture fuel.

Six of the eight projects proposed in this category have been initiated in some form. One has developed to the point where the next step is commercial demonstration; the others range from bench scale to proof-of-concept projects. All projects, with the exception of one, were applicable to the industrial sector. The one exception entailed a retrofit to a utility gas-fired boiler.

None of the submitters, with the exception of one proprietary proposal, directly addressed justification for federal incentives. Where the type of incentive was described, it was either a direct financial award or an award in combination with a federal loan.

Gas Stream Cleanup

Two gas stream cleanup projects were submitted. One of the submissions proposed a method for inbed desulfurization within a coal gasifier using mixed metal oxide sorbents. Federal financing, involving direct funding, was requested for the entire development process, from basic research through pilot demonstration.

The second project cannot be discussed or described since the submitter declared the entire proposal to be proprietary.

Surface Coal Gasification

Surface coal gasification was the core technology in 27 submissions. The projects were subsequently divided into three groups -- utility systems, industrial/residential systems, and special applications — based on the major application of the technology.

Utility Systems -- The 11 submissions that would apply to the utility sector ranged from the development of a thermodynamic model for coal gasification to the commercial demonstration of integrated gasification combined cycle systems at scales of 5 to 400 MWe.

Many of the integrated gasification combined cycle projects specified technology similar to that currently being demonstrated at the Cool Water project in California. One project, however, proposed the eventual replacement of conventional combined cycle technology with advanced gas turbines. Gasifiers included slagging fixed bed systems, fluid bed systems, and entrained flow systems. Gas cleanup systems ranged from conventional cyclones and wet scrubbers to one advanced in-bed desulfurization and hot particulate removal system.

All of the submissions sought direct federal funding support for capital costs and in some cases operating costs. Two principal reasons for this assistance were cited: (1) the significant risks entailed in recovering project costs in later years due to the heavy dependence on projected fuel price differentials; and (2) the substantial cost of gasification/combined cycle equipment which cannot be financed by the usual private utility means due to its novelty and the lack of evidence that the technology is practical and economical.

Industrial/Residential Systems -- Nine submissions were received for either the demonstration of gasifiers applied to small to intermediate size industrial/residential applications, or for coal-based concepts for producing chemicals and synthetic natural gas. Proposed projects ranged from a small (3.75 ton per day) pilot plant to a near commercial size (1648 ton per day) advanced gasification system. Federal incentives were advocated by the submitters due principally to the lower level of technical maturity and higher degree of risk associated with the gasifiers in this group.

Special Applications -- Seven projects proposed in this category could be further divided into two more specific categories:

(1) five proposed projects to convert coal to coproducts in addition to, or as a preparatory step to, the production of synthetic gas. Such coproducts include metallurgical grade coke as well as product chars with significantly better properties (lower sulfur and ash and higher heating value) than the original coal. Facilities in this category ranged in size from small laboratory research units to a 1000-ton per day demonstration plant. One project in this category requested a price guarantee and loan guarantee, while the others asked for direct federal funding.

(2) two submissions proposed advanced iron-making techniques that would use coal gasification technology as part of the process. According to the submitters, direct federal funding would be required for the projects, each of which would produce 300,000 tons per year of high purity iron for steelmaking.

Fuel Cells

Eight submissions were placed in the fuel cells category, seven of which proposed the use of the phosphoric acid technology (the other suggested an advanced molten carbonate concept).

Three submissions proposed to link a fuel cell with existing gasifiers at either the Cool Water, Tennessee Valley Authority, or Twin Cities projects, although none of the submissions showed a way in which true integration could be accomplished with an existing gasifier. Two submissions proposed a grass-roots design. Five of the submissions would rely on conventional gas cleanup techniques, one left the gas cleanup and system integration issues to be determined, and one did not address gas cleanup at all. All but one of the projects would be applied to utility power generation; the one exception would produce dc power for a chlorine/sodium hydroxide plant. All included direct federal funding, and in addition several proposed the use of government facilities and price guarantees for the product energy.

Heat Engines

While several submissions were received that included heat engine technology as part of the overall energy system, 13 submissions could be categorized as specifically focusing on the heat engine hardware.

Seven submissions would substitute coal fuels for distillate fuels in locomotive propulsion. Concepts included dry powdered coal or coal-slurry fueled gas turbines (two), a coal-derived gas-fueled turbine or diesel, a hybrid steam-diesel concept, an advanced fluid bed combustor/boiler combined with a steam turbine-electric drive, and an advanced fluidized bed boiler to drive a steam reciprocating cycle. One of the coal-slurry fuel gas turbine proposals also included a slurry fuels diesel engine as an option.

Three submissions were assigned to the category of industrial cogeneration, i.e. they would generate both process heat and electricity simultaneously. One would employ a coal-fired gas turbine, one a coal-fired fluid bed combustor, and one an air-blown gasifier, hot gas cleanup system, a diesel engine and a heat recovery boiler.

Three submissions were assigned to the Combined Cycle Power Generation Systems subcategory. All involve gas turbine component development for subsequent integration with coal gasifiers. One of the submissions was essentially a research and development effort. The other two proposed modifications to enhance efficiency and improved environmental performance.

Federal support was requested primarily in the form of direct funding although in one case a loan guarantee was proposed. Federal subsidies were judged to be necessary by those submitters assigned to the Locomotive Propulsion Systems subcategory because both railroad operators and locomotive manufacturers are reluctant to begin expensive research and development projects without reasonable expectations of commensurate payback in the near term. Federal support, according to the submitters, could result in initial testing of coal-fired locomotives within 3-1/2 to six years from the start of development, as compared to the end of the century if there was no federal involvement.

The submitters' justification for federal incentives in both the Cogeneration Systems and Combined Cycle Power Generation Systems were based generally on the relatively high initial development costs compared to long-term payback uncertainties.

Magnetohydrodynamics

Two submissions were received for retrofits of the magnetohydrodynamics (MHD) technology to the existing Montana Power Company's Bird plant. Both proposed projects would be contingent upon continuation of proof-of-concept testing by the Department of Energy, and both include the Bird plant as part of the private sector's cost sharing (although the estimated value of the plant varies by more than 100 percent depending upon the submission). The addition of the MHD topping cycle to the existing facility would increase its power output from 66 MWe to 88.6 MWe.

The federal incentive requested was direct funding at levels of about 50 percent when the submitter is given credit for the candidate base power plant and assuming that continued federal support is provided for the ongoing MHD program. This amounts to a 75 to 80 percent federal share of the direct out-of-pocket expenses. The submitters cited the high-risk, long-range nature of the MHD advanced power development effort.

Coal Liquefaction

Five submissions were received in this category. Two described exploratory bench scale research efforts. One was an informational letter documenting the submitter's ongoing interest in coal liquefaction and encouraging the Department to recognize out-year needs for pilot plant testing of new concepts. Two submissions addressed the co-production of electric power and methanol from coal using the Tennessee Valley Authority's Coal-to-Ammonia facility at Muscle Shoals, Alabama.

Direct federal funding was the preferred government incentive with cost-sharing described in only one of the submissions, the TVA-proposed "once-through" methanol synthesis project at Muscle Shoals. Federal involvement was necessary, according to the submission, to reduce uncertainties associated with the scale up to commercial size, construction and operating costs, and market potential for the methanol synthesis technology.

Underground Coal Gasification

Four submissions involved underground coal gasification. Each represented a totally separate technology or concept. One was a letter of interest from a firm proposing to undertake several risk reduction research studies. One submission suggested government funding for a research and development program to use unmineable coal as a sacrificial energy source to retort oil shale in place. A third proposal was for a cost-shared commercial plant to produce synthetic gas for a Wyoming power plant. The fourth proposed project was for a pilot and demonstration effort of underground gasification in a steeply dipping anthracite seam in Pennsylvania.

Where included, the justification for federal involvement was generally to reduce risks to sufficient levels to attract private capital.

THE ISSUE OF FEDERAL INCENTIVES TO ACCELERATE COMMERCIAL AVAILABILITY

The Congress also requested the Department, through Section 321, to identify the extent to which federal incentives might accelerate the commercial availability of emerging clean coal technologies. After analyzing the submissions, the Department concluded that federal incentives will not accelerate commercialization of these technologies and may, in fact, be counterproductive to their development.

The majority of submissions expressed a need for federal financial assistance, mostly in the form of direct funding. However, several of the emerging technical options addressed in the submissions are currently being developed at near-commercial or commercial scale without federal funds.

It should also be noted that cost sharing offered by the proposers varied significantly, not only in terms of the total amount but also in the nature of the cost sharing. For example, some proposers offered the amount of previous expenditures as "cost sharing" in return for 100 percent federal financing of future costs. Others offered to share all future costs. In many cases, cost sharing statements were not provided or were incomplete.

It should also be expected that several firms would opt for federal funds, if they were available, and some of these firms could conceivably delay the implementation of privately-financed development efforts while waiting for federal financing to materialize. The possibility also exists that some proposers who might have proceeded on their own would wait until they see which technology is backed by the government, then decide if they can effectively compete against a federally subsidized effort.

Some technologies that may not appear to be advancing rapidly to commercial scale may be hindered by valid technological or economic reasons, and therefore, may require additional research and development before they are commercially viable.

Other technologies may simply never be competitive, and the inability of these technologies to attract sufficient private sector investment may reflect investors' sound judgments as to their ultimate potential. Federal financing in these cases would not be productive regardless of the amount.

In some cases, the pace of commercial development and deployment may not hinge as much on technological issues as on the uncertainty of market demand or the uncertainty of future emission regulations that could spur demand for clean coal technologies.

Given the size and availability of U.S. coal reserves, the security of the domestic coal supply, and the comparative economics of coal as a fuel, free market forces are operating to select and commercialize the most efficient and environmentally-effective clean coal technologies. Federal subsidies could alter these market forces and adversely affect the development of competing technologies both within and outside the coal industry.

These conclusions are based on the Department's previous experiences with federal incentives. Commercial or near-commercial scale projects selected to receive assistance under prior incentive programs have been largely unsuccessful in commercializing new fossil technologies. Moreover, their lack of success has, in all probability, compounded the problems associated with the introduction of new technology. It is quite likely that related private sector projects have not been initiated because of the perceived competitive disadvantage of competing against a federally subsidized effort.

We are in wholehearted agreement with the objective of increasing the use of American coal in an environmentally acceptable manner. We believe that the government has a legitimate research role to improve coal technologies. The Administration's research program has been designed to bring about a more economical, cleaner technology for coal that will benefit the domestic coal market as well as the environment and economy in general.

Accordingly, the Department recommends to the Congress that no federal financial incentives be provided for the demonstration and commercial development of emerging clean coal technologies. Rather, the Department should continue to channel its resources into the highly productive areas of more generic coal technology research and development.

BENEFITS OF THE CLEAN COAL SOLICITATION EFFORT

Even though we recommend no future federal funding for the projects described in the submissions, significant value has already resulted from the process of soliciting statements of interest and informational proposals.

For many energy companies, the exercise was used as an organizing point to bring equipment manufacturers, architect-engineers, and other related firms into project teams. Should some of the projects proceed, many will incorporate the expertise of research, manufacturing, consuming and marketing interests within the same project framework, due to the information exchange that took place during this effort.

Information exchange between the private sector and the government was also an especially valuable product of this effort. A better indication now exists of the direction the coal and coal-related industries would like to take in the development and application of new technology. In addition, several interesting ideas emerged that may be of value to future planning of the government's coal research and development program.

This concludes my formal testimony, Mr. Chairman. I will be pleased to answer any questions you or Members of the Subcommittee may have.

ADDITIONAL COMMITTEE QUESTIONS

1985 Deferrals

Question: Before we turn to your proposals for 1986, I would like to ask you a few questions about your proposed 1985 deferrals and the action by the House Appropriations subcommittee on those proposals.

What has happened as a result of our asking for, and the Secretary granting, an extension on the effective date of the deferrals?

Answer: On February 6, 1985, the President transmitted to the Congress a deferral of Fossil Energy appropriations of $48.396 million. The deferral proposed reductions in certain ongoing programs such as Magnetohydrodynamics, the Bureau of Mines gasifier and the Wilsonville, Alabama, coal liquefaction pilot plant.

On February 27, 1985, the Secretary received a letter from the House Committee on Appropriations signed by the Chairmen and ranking minority members of both Congressional houses asking that the Department not take any action to terminate ongoing projects identified in the deferrals prior to May 1, 1985. This request was honored by the Secretary in a letter dated March 28, 1985, sent to both houses of Congress. This letter indicated that the Department planned to continue the ongoing Fossil Energy R&D projects included in the deferral through May 1, 1985. The deferral was thus amended and funding was provided to carry all projects to May 1, 1985. The Bureau of Mines gasifier project was funded for the balance of FY 1985 as part of this action.

The Department received a second letter from the House Committee on Appropriations signed by the Chairmen and ranking minority members of both Congressional houses dated April 22, 1985. This letter requested that we not terminate the ongoing projects before completion of congressional action. Again, the Secretary wrote to the Committees, and in a letter dated May 20, 1985, assured that no action would be taken to terminate the ongoing projects prior to congressional action. Funding has been provided to the above mentioned projects to carry them through July 1, 1985, and our deferral has been amended accordingly.

Question: Have some of the proposed deferrals, in effect, been dropped? If so, which ones?

Answer: As a result of Congressional requests for delays in processing the deferrals, the Bureau of Mines gasification project was funded for the balance of FY 1985 and is no longer proposed for deferral.

INEL Materials Program

Question: As I understand it, the House has agreed to some of your deferrals and overturned others. One item not overturned by the House is the critical materials program funded for $983,000 at the Idaho National Engineering Laboratory (INEL) in conjunction with the Bureau of Mines. Is it correct that the materials work underway at INEL had been structured so as to be complementary to, rather than duplicative of, other ongoing DOE efforts?

Answer: It is correct that the materials research planned for INEL ($983,000) has been carefully structured to complement, rather than duplicate, other, ongoing, DOE efforts. Upon learning of the directed appropriation, a series of meetings was held between FE, BOM, Oak Ridge Operations Office, Idaho Operations Office, Oak Ridge National Laboratory, and Idaho National Engineering Laboratory personnel to define research topics that (1) complemented the BOM sponsored research at INEL, (2) complemented the AR&TD program and (3) built on clearly identified strengths of the INEL. Four research proposals were developed by INEL. These proposals were reviewed by FE and BOM program managers as well as technical personnel.

Revised proposals were prepared by INEL to address questions raised during the review process. These proposals are now acceptable to all parties involved. Although the INEL projects could enhance the materials area, they are of lower priority and we decided to defer the INEL effort in light of budget constraints.

Question: Does DOE have any other projects underway that focus on "consolidation of aluminide powder produced by rapid solidification" or "joining" (brazing) of silicone-based ceramic fiber-ceramic matrix composites?

Answer: Fossil Energy has no other projects underway which focus on "consolidation of aluminide powder produced by rapid solidification" or "joining of silicon-based ceramic fiber-ceramic matrix composites." However, Fossil Energy, in conjunction with DOE's Office of Conservation and Renewable Energy, is funding research on the development of iron-nickel aluminides for structural applications. Research on the fabrication and properties of ceramic composites is also sponsored by Fossil Energy as well as other government offices.

Question: Your justification for the deferral states that some of this research is already provided for in the Fossil Energy Research and Development materials program. Why, then, did you respond to staff questions that these projects had been designed so as to be complementary?

Answer: The projects at INEL which would not be funded as a result of the deferral complement other projects now underway which form the core of the structural ceramics and iron-nickel aluminide topical areas. These two topical areas contain projects that address the major problems of these technologies as they pertain to fossil requirements. Although the INEL projects could enhance these areas of the materials program, they are of lower priority and in view of budget restraints we decided to defer the INEL work.

Glo-Klen Flue Gas Cleanup

Question: Another deferral proposal not overturned by the House is the flue gas cleanup project funded for $1,967,000 to test the Glo-Klen combustion catalyst.

Is this process the same as a LIMB test or is this a different kind of cleanup process involving a chemical catalyst process?

Answer: The process developer claims that Glo-Klen acts as a catalyst in the reaction between sulfur dioxide and fly ash constituents. This is different than a LIMB type of process where the sorbent reacts directly with the sulfur dioxide to form a calcium sulfate byproduct.

Question: Does EPA now support the testing of Glo-Klen? Have you solicited their evaluation of the proposal?

Answer: We have solicited EPA input regarding Glo-Klen and have been advised that on the basis of tests that they performed using a small packaged boiler rated at 2000 pounds of steam per hour, Glo-Klen showed no capability for sulfur dioxide capture and that they would not support further testing at this time.

Question: What, in your judgment, is the biggest step in developing a new technology on a combustion catalyst — moving from laboratory analysis to bench scale or from bench scale to utility scale?

Answer: In terms of establishing concept feasibility and scientific validity we would consider the transition from laboratory analysis to bench scale testing as the biggest step. In terms of funding requirements, however, moving from bench scale to utility scale would be the biggest step.

Question: As we understand it, Glo-Klen has been used for 10 years to clean boilers. The company involved does not consider its product a threat to a utility boiler. If the company can persuade a utility to offer its boiler as a test site, why would DOE object to the test?

Answer: DOE objects to the expenditure of Federal funds to attempt to demonstrate an, as yet, unproven concept at the utility scale. If such a test would be carried out using private funds exclusively, DOE would have no objection.

Question: If utilities were interested in this project, would DOE become more supportive?

Answer: DOE's lack of support does not stem from a lack of utility interest. Rather it stems from a reluctance to commit Federal funding for full scale demonstration testing of a concept whose feasibility has yet to be established.

Question: Don't large scale boilers offer long retention times and the ability to test where the cleanup occurs?

Answer: Full scale boiler gas residence times are on the order of seconds. Sub-scale combustion test facilities are generally designed to simulate the conditions encountered in a full size boiler.

Question: According to DOE information, the next logical step in testing Glo-Klen would be to test it in a small combustor under conditions of temperature and residence time which are representative of commercial conditions. What would this cost?

Answer: The estimated costs for conducting small scale combustion tests with Glo-Klen are approximately $200,000.

Question: Where could it be tested?

Answer: A suitable facility to conduct this work could be the Argonne National Laboratory.

Question: How quickly could it be done?

Answer: We estimate that the work could be completed in approximately 8 months after funding is made available.

Question: Would DOE support such a scaled-down test?

Answer: Based on the negative results obtained in the EPA testing of Glo-Klen, DOE does not support the scaled down test program; however, it is certainly a better alternative to the previously proposed utility scale program.

U-Gas

Question: Does DOE have "fluidization data on the possible synergestic effects of pressure as well as temperature on bubble size, bubble growth, and extent of solids mixing", as it relates to the U-Gas ash agglomerating fluidized bed gasifier?

Answer: DOE has an ongoing program directed towards obtaining "fluidization data such as the synergistic effects of pressure and temperature on bubble size, bubble growth, and extent of bed mixing" associated with the U-Gas process. This information can provide clues as to the effect of pressure on the above mentioned parameters. It should be noted, however, that such data may exist as a result of the efforts of KRW to develop a specific gasifier design of an ash agglomerating fluidized bed. The KRW process has been operated at pressures up to 230 psig under ash agglomerating conditions (temperature in the range of 1800 to 1850 F) and measurements have been made so as to permit the correlation of data to a "fluidization model" for this specific gasifier design.

Question: Does anyone?

Answer: The Gas Research Institute has a program underway with IGT to extend the range of the fluidization data available for the U-Gas design to higher pressures under ash agglomerating conditions. This work has started recently and is aimed at extending the data base of the ash agglomerating coal gasification process to 300 psig and with possible future modifications up to 500 psig.

Question: Has any test been run above 60 psig?

Answer: No U-Gas test has been run at pressures above 60 psig.

Question: The DOE material refers continually to the process as the U-Gas process, but our intent was to fund a test to operate at significantly increased pressures. Wouldn't this generate data wholely distinct from the available data on the low pressure U-Gas tests?

Answer: It should be noted that the Surface Gasification Program has supported the development of two ash agglomerating fluidized-bed processes. These are generally referred to as the U-Gas and the Westinghouse (KRW) gasifiers. While the U-Gas system has been operated up to a pressure level of 60 psig, the Westinghouse gasifier has operated up to a pressure level of 230 psig. This pressure range (0-230 psig) does provide some indication of the effect of pressure on the performance of the type of gasifier. While it may not be possible to extrapolate these data to much higher pressures (i.e., greater than 400 psig), the absence of such data should not be a serious obstacle to any current plans to commercialize this technology. Applications of the technology envision operation at pressures up to approximately 300 psig. It must also be remembered that data are being generated in studies sponsored by the Gas Research Institute at the Institute of Gas Technology that will provide some idea of the effect of pressure on these systems at 300 psig and possibly up to 500 psig.

Georgetown AFB

Question: What has been the total cost of the Georgetown AFB project to date?

Answer: The total cost of the Georgetown AFB project to date is $20,271,344.

Question: How have these costs been shared (Federal Government, university, others)?

Answer: To date the total cost of the Georgetown AFB project has been shared as follows:

Department of Energy	$15,578,622
Georgetown University	4,692,722
Total	$20,271,344

Question: When DOE assisted with the initial funding for the boiler, was it a prototype and experimental?

Answer: The Georgetown AFB unit was a prototype design. The Georgetown unit was the first demonstration of AFB technology (bubbling-bed) for an industrial application. Due to the size of 100,000 lb/hr steam, the unit was not experimental. Experimental testing was conducted at bench scale units such as Alexandria.

Question: What problems have occurred to date?

Answer: The Georgetown AFB unit has operated relatively trouble free with the exception of tube erosion. After approximately 12,000 hours of operation, the unit was shut down due to tube erosion. Approximately 450 above-bed generating and three (3) in-bed tubes had to be replaced. Once replaced, the unit operated for an additional 2,500 hours of operation and was again forced to shut down due to major tube erosion in the above-bed generating tubes. The technology to repair the tube erosion problem is commercially available and should be financed by Georgetown.

Question: What has it cost to correct the problems and at what cost to whom?

Answer: The DOE was appropriated $800,000 in FY 1984 to make tube erosion repair after 12,000 hours of operation. These repairs were completed and funded by DOE. The repair of the current erosion problem is estimated to cost the approximate $1.3 million that Congress appropriated in FY 1985. Georgetown University is proposing that DOE fully fund these repairs.

Question: If the boiler was a prototype, did DOE have a role in selecting the design or manufacturing firm?

Answer: DOE's role was limited to the award of the contract with Georgetown University which consisted of a teaming arrangement with Georgetown University as the prime contractor and the Fluidized Combustion Company (FCC) as a subcontractor. FCC is a joint venture of wholly owned subsidiaries of Pope, Evans, and Robbins, Incorporated (PER), an engineering consulting firm, and Foster Wheeler Corporation (FWC), a supplier of equipment to the steam power industry.

Georgetown University provided overall program management as the prime contractor. In addition, it provides plant operation, fuel, manpower, environmental assessment studies, scientific testing, and fluidized-bed performance evaluation during operation. FCC, subcontracting the engineering and design efforts for the fluidized-bed boiler and balance of plant to Foster Wheeler Energy Corporation (FWEC) and PER, respectively, coordinated all technical activities and functions. FCC, through its subcontractors, PER and FWEC, awarded the construction subcontracts; provided engineering and consulting services during construction and startup; and assisted in operation of the demonstration unit, including training of operating personnel.

Question: Did DOE review or approve the design, especially as it relates to the above-bed tubes?

Answer: DOE, through a supporting Architect and Engineering firm, Davy McKee Corporation, did review the Georgetown AFB design. However, review of the design emphasized the fluidized-bed portion of the boiler and not the conventional, convective (above-bed tube) portion of the boiler. Boiler manufacturers have over forty (40) years of experience in the design, construction and operation of pulverized coal (PC) and stoker units for coal firing. There was no reason for DOE not to accept the manufacturers design in this area as it is no different from an PCB boiler.

Question: Have there been other boilers delivered with similiar problems?

Answer: Yes, there have been other AFB boilers with reported erosion problems. However, most of these reported cases have been with in-bed tubes and not over-bed tubes as in the Georgetown case. Current information indicates that over-bed erosion is not a generic problem in AFB units but rather a specific design and manufacturer problem. DOE has and is currently addressing generic in-bed tube bank erosion through research supported with FY 1984 and FY 1985 funds.

Question: To whom?

Answer: Other reported AFB units experiencing erosion problems similar to Georgetown are as follows:

(1) Great Lakes
(2) Central Soya (Marion, Ohio)
(3) Campbell Soup (Maxton, N.C.)

Johnston Boiler Corp., who designed both the Central Soya and Campbell Soup plants has reportedly resolved their erosion problems. Great Lakes, designed by Combustion Engineering operated an insufficient number of hours to verify whether their initial erosion problems were resolved. Most other reported erosion problems are with in-bed tubes which DOE is addressing through its research program.

Question: Have they asked DOE to assist in repairs?

Answer: No, the Georgetown University AFB unit is the only federally sponsored facility that has asked for funding to assist in erosion repairs. All other units are totally private sector funded or have no reported erosion problems.

Question: If the initial private cost share of this federally-sponsored demonstration was 40%, would the Department object to replacement subject to the same partnership terms (60% Federal; 40% private)?

Answer: Fossil Energy recognizes that an erosion problem exists with some DOE-sponsored AFB facilities, and has been assisting in resolving the problem through technical review and recommendations. Correction of the erosion problem cited by users (i.e., tubes in the convective sections of the boiler) is considered to be a product improvement. In-bed tube bank erosion is considered to be a technical hurdle which fluidized-bed combustion must pass. Fossil Energy is addressing the generic problem of in-bed tube bank erosion through research supported with FY 1984 and FY 1985 funds. Additional appropriations to purchase new boiler tubes for the Georgetown facility will only assist in resolving specific erosion problems and will not benefit the technology as a whole. Thus, DOE believes a cost share of 60% federal and 40% private is inappropriate.

KILnGAS

Question: If Congress were to overturn the proposed deferral of $7,376,000 for demonstration runs of the KILnGAS coal gasification process, how would DOE administer the funds (through what office; subject to what conditions; tests designed to generate what data, etc.)?

Answer: DOE will administer the funds through a cooperative agreement managed by the Morgantown Energy Technology Center. This assistance agreement will be subject to normal DOE cost and pricing principles; will require invoicing on a monthly basis; will require reports on all business, financial, and technical aspects of the project during the funding period; and will require pay back of up to double of the funds based on future sales of commercial units.

The data generated during this period will be used to establish the reliability, availability and maintainability of this particular type of gasifier.

Question: What is the current publicly available information concerning the financial health of the private-state partnership that has developed this process?

Answer: An audit of the Allis-Chalmers/KILnGAS R&D accounting system and proposed costing was conducted by the Department of Energy's Office of the Inspector General which found the system to be reasonable and sound. Recently, the State of Illinois provided $2.68 million in funds to conduct modifications and maintenance at the facility. Private utilities have provided an additional $1.4 million. Additional funds for the proposed reliability testing will not be available from the State of Illinois and electric utilities without federal funding.

Question: Without Federal funding for the test runs, will the test runs be made?

Answer: The Kilngas Technology has been demonstrated at very large scale. The Congressionally directed DOE funding provides approximately one-third of the proposed budget for the reliability, availability, maintainability (RAM) test program proposed by Allis-Chalmers which Allis-Chalmers claims is needed for utilities to consider the technology for commercial applications. The State of Illinois has planned to match Federal funds and has provided $2.68 million as noted above, with the balance of their $7.35 million awaiting a Federal commitment. If the DOE's deferral is accepted, sponsors will need to acquire funds from other sources to complete the RAM testing.

Question: If the test were to be run, what would happen next, if the tests were successful?

Answer: Successful completion of the RAM testing will, according to Allis-Chalmers, sufficiently reduce the new technology risk such that further work towards commercialization will be supported by private funds.

Question: If the tests were not successful?

Answer: If the tests were not successful Allis-Chalmers would have to reassess the commercial viability of the KILnGAS process and weigh the cost of corrective measures against prior investment and return on investment when the process becomes commercial.

Question: Were these funds provided with a double repayment provision to the U.S. Treasury to be derived from proceeds from the commercialization of the process?

Answer: The cooperative agreement contains a requirement to repay double the DOE funding on commercial sales at a rate similar to that negotiated between Allis-Chalmers and the State of Illinois. Based on current Allis-Chalmers projections of sales, this will result in completion of the payback without interest to the U.S. Treasury by the year 2013.

Question: Is there any satisfactory way to predict success or failure of those runs?

Answer: There is no fool proof way to predict success or failure of the runs, however, based on prior performance of the process and plant modifications currently underway, which were performed to correct problem areas experienced in prior operations, it is anticipated that the RAM goals set for the proposed testing program will be met. We are unable to predict, however, if the technology will ever be used commercially even if the test runs are successful. Market forces will determine its fate in the commercial marketplace.

Wilsonville

Question: Your initial deferral proposal indicated that you thought that "by April, 1985, the R&D program at the pilot plant will have effectively achieved proof-of-concept". Has that occurred? Please elaborate.

Answer: In April 1985, a run was completed using bituminous coal with a low residence time thermal reactor. We believe that proof-of-concept evaluation has been achieved of the integrated two-stage liquefaction process utilizing interstage deashing. Both bituminous and subbituminous coals have been tested over a range of operating conditions. Results have shown that this process provides high yields of high quality distillates with more efficient utilization of hydrogen. The Department believes that further development of the concept is the responsibility of industry and the data available from Wilsonville provides them with information they need to make decisions regarding additional development efforts.

Question: You have mentioned two other technologies that could ultimately require proof-of-concept evaluation: 1) The "close coupled direct catalytic liquefaction" process, and 2) "co-processing of coal with petroleum residuum".

Will either of those be ready to move to proof-of-concept evaluation in 1985? 1986? 1987?

Answer: Close coupled direct catalytic liquefaction is a staged ebullated bed catalytic process concept that has been under bench scale development for two years. Results to date have been very promising but further research will be required to establish justification and a technical basis for proof-of-concept testing. Under the present program these results will be available by 1987.

Co-processing of coal with petroleum residuum has been under bench scale development for about a year. Again, initial results are encouraging but proof-of-concept testing could not be initiated before 1987.

Question: Is Wilsonville the logical site for proof-of-concept evaluation for either technology?

Answer: With appropriate modifications Wilsonville could be a candidate site for proof-of-concept evaluation of these technologies; however, the site is more suited to the co-processing concept. The close coupled direct catalytic process had its origin in the H-Coal ebullated bed technology. The PDU used to develop the H-Coal process is available at the HRI laboratory near Trenton, New Jersey and is a strong candidate to test this particular advanced technology. The HRI PDU, unlike Wilsonville, need not be run full time, all year and, therefore, could be operated at a lower annual cost.

Question: Where are the other sites?

Answer: As mentioned above, the PDU at the HRI laboratory is a potential site for proof-of-concept evaluation of the close coupled direct catalytic process. There are other possible sites for evaluation of the co-processing technology but their availability and costs are unknown at this time.

Question: What price premium would we pay to conduct those evaluations at Wilsonville versus other sites?

Answer: The choice of a site for proof-of-concept evaluation should be based primarily on the technical quality of the tests achievable. Generally, for alternative sites which are technically equivalent, the lower cost option would be preferable to achieve maximum cost effectiveness.

It is not evident that there are any reasons why a premium price would be paid other than the belief that information of greater utility or better quality would be obtained.

Question: If the deferral is approved, what will happen to Wilsonville in 1985? 1986?

Answer: The Department is continuing to fund the project on a month-to-month basis, based on requests from the House Committee on Appropriations. The Secretary has assured that no action will be taken to terminate prior to Congressional action. The FY 1986 budget request includes no funds to continue the project. Since the facility is owned by EPRI on Southern Company Services Corp. land, it will be their decision as to continued use or ultimate disposition. If the deferral is approved, Wilsonville would be shut down.

Question: If no further proof-of-concept testing is undertaken in 1985 or 1986, what will happen to Wilsonville?

Answer: If no further proof-of-concept testing is undertaken in FY 1985 or FY 1986, the owners of Wilsonville would have to decide whether to continue operations with their own funds or shut down the facility. If they decide to shut it down, the Department would be responsible for project termination costs of $1.5 million which are primarily associated with personnel costs and environmental activities such as equipment cleanup, site cleanup and product and waste disposition.

Question: What would it cost to mothball Wilsonville?

Answer: The Wilsonville facility is owned by the Electric Power Research Institute (EPRI) and they are responsible for the ultimate disposition of the facility should it be shut down. As noted above, in the event of shut down DOE is responsible for project termination costs estimated at $1.5 million which would prepare the facility for storage. EPRI has suggested that facility maintenance and security would probably cost less than $0.5 million annually. However, EPRI also believes that the site owner (Southern Company Services) would wish to clear the site if the facility were not being operated.

Question: Under what circumstances would DOE recommend mothballing?

Answer: It is not appropriate for DOE to make a recommendation since EPRI owns the facility and disposition is EPRI's responsibility.

1986 Budget

Question: Mr. Vaughan, your statement (p. 3) includes major elements or key points that guided your budget decisionmaking process.

One of those points emphasizes that the current DOE view is that the federal role is well served by doing basic research and applied research through the proof-of-concept stage, but that the industry would then assume the responsibility for further development and commercialization.

As you know, last Thursday the Committee spent almost 5 hours receiving testimony from 34 witnesses supporting appropriations beyond the proof-of-concept stage for the Clean Coal Technology Program. A frequently quoted document was the recent ERAB report which states, in part, that DOE should "assure" commercialization of some clean coal technologies, simultaneously requiring high rates (greater than 50%) of co-funding and only for carefully selected technologies.

Would you care to comment, generically, on the charge that DOE should "assure" commercialization of certain technologies?

Answer: The ERAB adopted, as an assumption, that DOE should "assure" commercialization of some of the more promising clean coal technologies. This Administration does not believe that it is the

Federal Government's role to "assure" commercialization, nor are such assurances feasible since true commercialization depends upon market forces outside the control of the Federal Government. Rather, it is the Administration's position that the appropriate role for Federal Government is to encourage the development of a sound technology base for technological innovation through jointly funded basic and applied research and to encourage an overall economic climate in which the private sector users and producers of energy can carry forward major innovations through commercial demonstrations of new technologies. We believe the government should make it technologically possible for commercial development decisions to be made by industry.

Question: Another of your key points is that DOE is a stable research partner, as reflected in the fact that your 1986 budget is only 11% below your 1985 budget. Do you think that comparing this year's proposal to last year's proposal is as realistic as comparing this year's proposal to last year's law?

Answer: The comparison between the FY 1985 and FY 1986 budget requests for Fossil Energy reflects the Department's commitment toward establishing a stable and productive funding profile for generic R&D efforts and recognizes the need for fiscal constraint. Fossil Energy's budget requests continue to emphasize the President's commitment to control Federal spending as an integral component of the nation's ongoing economic recovery, and reflect a balance between the economic urgency of limiting government spending and the technological necessity of maintaining a sound, progressive program of long-range, high-risk, generic R&D.

Question: Your statement recognizes that your 1986 budget is some $105 million (-30%) below the 1985 appropriations bill. Don't you see that as the more responsible comparison? If so, how stable is DOE as a research partner?

Answer: We believe the President's FY 1986 budget request of $242.7 million provides for a balanced program of long range, high risk, generic research and development that recognizes the need for fiscal constraint. Although this request is about $100 million below the FY 1985 appropriation for Fossil Energy research and development, the essential technology base activities are continuing at about the same funding level. The FY 1986 budget request does not provide funding for the continuation of the Phosphoric Acid Fuel Cell (PAFC) program, the Magnetohydrodynamics (MHD) program, and certain projects proposed for deferral which are considered inconsistent with the Administration's priorities. We do not believe that these reductions will have a serious effect on Fossil Energy research and development efforts since a significant amount of Federal research has been performed on these technologies. By FY 1986, the development of the PAFC technology will be advanced well beyond the proof-of-concept stage. PAFC systems have matured to the point that two principal manufacturers contemplate commercial offerings and prototype power plants deliveries by about 1988. Accordingly, it is now appropriate for DOE to withdraw any further funding for PAFC systems. The MHD program requires a very expensive development program to bring the technology to the point of commercial acceptance. It is estimated that $150 million is needed for the proof-of-concept work and an additional $350 million for a demonstration plant. These expenditures assume significant cost sharing by the private sector. The remaining programs will continue to be conducted at a funding level similar to FY 1985 which demonstrates the Administration's commitment to the Fossil Energy program.

Question: What was your request to the Secretary for FY 1986? ($345.6 million)

Answer: Fossil Energy's FY 1986 budget request to the Secretary was $345,660,000.

Question: The Administration's 1986 budget was over $100 million below your own request to the Secretary, wasn't it? Is that really a "stable funding pattern"?

Answer: The FY 1986 budget request submitted by the Administration strikes a balance between the economic urgency of limiting government spending and the technological necessity of maintaining a sound, progressive program of long-range, high-risk, generic R&D. The decisions reflected in this budget request have been made within the context of the urgent national need to reduce federal spending. This overriding fiscal priority has meant, in some cases, that not all legitimate, technologically sound energy concepts can be pursued. For some processes, particularly those in more advanced stages of maturity, it has meant that federal involvement will proceed to a proof-of-concept stage, at which point industry can elect to demonstrate or commercialize the particular technology. And for some efforts, particularly those that require major capital outlays for large facilities, fiscal considerations have necessitated that the government offer equipment and facilities in lieu of direct funding.

Coal Preparation

Question: The Department is requesting $10,302,000 for coal preparation and control technology activities in 1986, a reduction of $663,000 (-6%) from 1985 appropriations to date.

If Congress were to enact your 1985 deferral proposals, what would be the respective program levels for fiscal year 1985 and 1986?

Answer: If the FY 1985 deferral was enacted, the Coal Preparation program level would be:

FY 1985	FY 1986
$9,982,000	$10,302,000

The new total for FY 1985 of $9,982,000 results from the proposed deferral of $983,000 for purged carbon. No change to the FY 1986 budget request of $10,302,000 would result.

Question: What activities will be eliminated in 1986 when compared to 1985?

Answer: No activities would be eliminated in FY 1986 compared to FY 1985.

Question: DOE and the Electric Power Research Institute (EPRI) will be cooperating on a coal preparation program at the Homer City, PA Coal Cleaning Test Facility (CCTF) in 1985 and 1986. What is the status of this cooperative program?

Answer: Proposals in response to the competitive procurement that was issued on February 22, 1985, have been received and are undergoing evaluation. Contract awards are expected by the end of FY 1985.

Question: As we understand it, DOE has $3.5 million to spend in 1985 and is requesting $3.594 million in 1986 to support this program. Will those funds be used solely to run the tests on the selected advanced physical cleaning processes?

Answer: The funds will be used to design, fabricate, install and operate the selected advanced physical cleaning processes. The majority of the operating funds will be provided by EPRI.

Question: Will the process selections be based, in part, on co-funding proposals?

Answer: Offers of co-funding will be favorably regarded in the course of evaluating the proposals as part of the contractor selection process. Cost sharing by the proposer would have the effect of reducing the cost to the government and show an interest by the private sector in the technology and hence would positively influence the scoring of the business portion of the proposal.

Question: Did the request for proposals (RFP) list co-funding as a requirement for consideration? Why not?

Answer: The RFP did not specify co-funding as a requirement for consideration. However, it is being given consideration in the evaluation process. It was not considered appropriate to make it part of the qualification criteria because it could have possibly excluded or penalized those companies that already had carried out extensive development work.

Question: How many chemical coal cleaning processes are you currently planning to test in 1986?

Answer: The DOE is pursuing two chemical cleaning technologies both based on alkali displacement chemistry. They are Gravimelt and microwave, both being developed by TRW of California.

Question: Is this TRW's "Gravimelt" process?

Answer: One of them is TRW's Gravimelt process.

Question: How long will it take to run the next evaluation (20 pounds per hour)? At what cost?

Answer: The 20 pound per hour tests on both technologies are scheduled for completion in FY 1986. Our anticipated funding level for FY 1986 is approximately $2 million for both the Gravimelt and microwave efforts.

Question: What will be required in order for that process to be tested at the proof-of-concept size? When do you estimate you will be at a decision point regarding the construction of a proof-of-concept facility for "Gravimelt"?

Answer: Based upon the results of the 20 pound/hour tests and a parallel economic assessment, the decision to proceed or not proceed to proof-of-concept scale is scheduled for late FY 1986. Favorable tests results (NSPS sulfur levels and very low ash levels) and a favorable economic analysis will be required for a go-ahead decision.

Question: Is this chemical process competing for the same resources as the microbial desulfurization process and a microwave reactor process? How much is available for each?

Answer: These research efforts proceed independently, and do not compete with each other for funding. For FY 1986, we propose to fund the TRW Gravimelt and microwave research efforts at a combined level of approximately $2 million. For microbial desulfurization, we are proposing a funding level of $0.9 million.

Flue Gas Cleanup

Question: You are proposing a funding level of $10,123,000 for flue gas cleanup in 1986, a reduction of $4,677,000 (-32%) from 1985 appropriations to date. What activities will be eliminated as a result of the reduced funding level?

Answer: The activities that will be affected by the reduced funding level include the elimination of the FY 1985 Congressionally directed work on the Glo-Klen process, reduction of the FY 1985 Congressionally directed Argonne National Laboratory spray dryer project, and completion of the bench scale work on five advanced NO_x/SO_x cleanup concepts initiated under the FY 1983 Program Research and Development Announcement. It is anticipated that bench scale testing will continue during FY 1986 on one of the advanced NO_x/SO_x cleanup concepts.

Question: Is any money requested in 1986 to continue dry scrubbing activities at the Argonne Dry Scrubber Test Facility?

Answer: No funding has been requested for this project in FY 1986.

Question: What was accomplished with the $1.3 million provided in fiscal year 1985?

Answer: A small scale spray dryer was procured, installed, instrumented, and checked out. Preliminary screening tests of additives to improve SO_2 and NO_x capture efficiency have been initiated using the small spray dryer. The 20 MW spray dryer is currently being instrumented. Initial testing of this unit using the additives evaluated in the small scale test work is scheduled to start in August.

Question: According to your justification, initial testing of various additives to improve SO_x and NO_x efficiency is scheduled to start in August. Is that still on schedule?

Answer: As of now, we anticipate that testing and evaluation of the additives at the 20 MW scale will be initiated in August as scheduled.

Question: Where will you get funding to continue this activity in fiscal year 1986?

Answer: The budget request proposes that no funding will be provided in FY 1986 for continuing the Argonne dry scrubber project. As stated previously, the 20 MW spray dryer is currently being instrumented and initial testing of this unit is not scheduled to start until August and will continue over a four month period. It is therefore too early to establish whether this technology is promising. An assessment of this technology based on the test results will be made upon completion of the test series at which time we can determine the feasibility of continuing this work.

Question: Your advanced concepts research program is scheduled for a reduction of $1,332,000 (-43%). Is this a reflection of the results of the bench scale work on 5 advanced NO_x/SO_x processes completed in 1985 that was funded under the Program Research and Development Announcement (PRDA)?

Answer: The reduced funding for advanced concepts reflects both the results of the bench scale work on the advanced NO_x/SO_x processes funded under the FY 1983 PRDA as well as a shift in emphasis to the Acid Rain Control Technology proof-of-concept development effort.

Question: Your material states that, at most, only one of these processes appears worthwhile to continue testing in 1986. Which process is that?

Answer: The most promising of this group of processes is the Moving Bed Copper Oxide process which has the potential for integrating SO_2, NO_x, and particulate removal into one unit.

Question: How much is proposed in 1986 for that process?

Answer: FY 1986 funding for the Moving Bed Copper Oxide process is currently anticipated to be on the order of $300,000.

Question: What is the problem with the other processes?

Answer: Difficulties were generally encountered either in demonstrating acceptable pollutant capture levels or in the regeneration process.

Question: You have $5,320,000 budgeted in 1986 to continue 1985 PRDA work (an increase of $2,370,000 over the 1985 level of $2,950,000, or +80%) related to acid rain technology candidate processes. Could you specify which candidates will be tested?

Answer: The Technical Evaluation Panel has completed its evaluation and forwarded its findings to the Procurement Office. The procurement package is being prepared and should be forwarded to the source selection official by the middle of June. We are unable to specify which candidates were selected prior to the announcement by the source selection official, however, several proposals which meet the procurement guidelines were submitted.

Gas Stream Cleanup

Question: You are proposing a reduction of $1,738,000 (-24%) for gas stream cleanup activities in fiscal year 1986. What assumptions are you making regarding use of the agglomerating fluidized-bed gasifier at Waltz Mill, PA?

Answer: We are in effect piggy backing the planned H_2S and particulate gas stream control testing on the gasifier which will be operated as part of the Surface Coal Gasification program.

There are, however, facilities other than Waltz Mill in which studies on the development and evaluation of integrated gasification hot gas cleanup and fuel use systems for utility application can be performed. Included among these are the fixed bed and advanced gasifier test facilities at the Morgantown Energy Technology Center.

The Gas Stream Cleanup program will fund the data acquisition and reduction portion: specifically only the cleanup devices. Operation and maintenance of the gasifier is Surface Coal Gasification responsibility and data is only acquired when the gasifier is operated for other purposes.

Costs for the test vessels and attendant piping and cabling were incurred during FY 1985 and are non-repeating in FY 1986. These two factors allow a decrease in FY 1986 funding for PDU gasification cleanup testing.

Combustion Systems/PFB

Question: The proof-of-concept site for testing pressurized fluidized-bed combustor cleanup is the Grimethorpe Unit in the United Kingdom. What funds are included in 1986 to fund further work at Grimethorpe?

Answer: The Department of Energy is presently negotiating a contract with the U.K. National Coal Board (NCB) to participate in a follow-on test program at Grimethorpe. Subject to successful outcome of these negotiations, the DOE would participate with U.S. industry in the testing of key critical PFB process components impeding first generation PFB commercialization. The FY 1986 budget request includes $1,500,000 for the testing of key critical PFB process components. Although none of these funds were specifically identified for Grimethorpe in the FY 1986 key activity summary, they could be applied toward this effort if the above mentioned negotiations are successful. This research will be conducted within the Combustion Systems program and not the Control Technology and Coal Preparation program.

Question: What would be done?

Answer: The DOE proposed participation in the Grimethorpe program would be to obtain proof-of-concept data on hot gas cleanup, coal/water slurry feeding and performance of an updated heat exchanger design. As discussed in the previous question, DOE participation is subject to negotiations now underway with the NCB for a cost-shared follow-on test program.

Question: Could you elaborate for the record on the current contract at Grimethorpe and the future plans for follow-on testing? Please include items such as total costs; cost sharing anticipated; use of prior year funds; participation by U.S. and U.K. industrial partners; status of negotiations regarding structure and objectives of the follow-on test program.

Answer: The initial test program at the Grimethorpe facility was completed in 1984. Currently, project activities consist of completing analyses of these tests and preparation of final project reports. All reports are expected to be issued by June 1985. On August 10, 1984 the three project participants (United States, United Kingdom, and the Federal Republic of Germany) transferred title of the facility to the U.K. National Coal Board (NCB). The NCB and Central Electric Generating Board (CEGB) have decided to undertake a follow-on program which will consist of 2000 hours of testing at the Grimethorpe facility to assess tube bundle erosion and the effects of various coals on unit performance.

It is the intent of DOE to participate in this follow-on phase of the project and at present the Department is negotiating with the NCB for a cooperative test program at Grimethorpe.

U.S. participation in this program will include participation in the analysis of the U.K. testing as well as sponsorship of tests using a U.S. designed tube bundle and coal water mixture as a fuel to determine unit performance and erosion characteristics of the tube bundle design. Also, testing of various advanced hot gas cleanup devices for reducing particulate and alkali loadings in the exhaust gases will be undertaken by U.S. participants including EPRI, Florida Power and Light Company, Babcock and Wilcox, and Foster Wheeler Corporation.

It is estimated that the test program will cost about $47,000,000 (based on a rate of exchange of $1.20 equals one pound sterling). The

CEGB (Grimethorpe operators) would fund approximately $33,000,000, with United States industry providing $7,000,000 in either funds or materials.

At present, approximately $1,500,000 remains from prior year funds to support additional testing in the facility. In addition, a small undetermined amount of funds ($300,000-$500,000) remains from the initial phase which was curtailed due to a strike by the U.K. United Mine Workers.

The Electric Power Research Institute, Florida Power and Light, Babcock and Wilcox, and Foster Wheeler would provide funds and materials for the follow-on program. Materials for this new program consist of fuel, sorbent, heat exchanger tube bundle, personnel and hot gas cleanup equipment. Prior to this, EPRI and GE contracted with IEA Grimethorpe to provide materials and material analysis in the turbine cascade test section. The program proposed by the NCB and CEGB will consist of 2000 hours of testing to assess the effects of fluidizing velocity, load variations and coal types and PFB performance and tube bundle erosion.

It is anticipated that the contract for the follow-on test program will be initiated in October 1985. The objective of the follow-on test program is to test key critical PFB process components and to obtain process performance data to permit industry to proceed with utility demonstration projects.

Acid Rain Related Research

Question: Mr. Vaughan, your budget submission indicates that the Department's acid rain related research program will decrease from $59.0 million in 1985 to $53.0 million in 1986. This is a net reduction of $6 million (or -10%) from 1985 to 1986. In the control technology and coal preparation activity, the reduction is even more severe — the reduction is $7.9 million (-23%). Have we made this much progress in understanding basic coal preparation processes or control technologies?

Answer: The DOE activities aimed specifically at the development of controls for retrofit to existing power plants were initiated in FY 1985 and we are in fact making considerable progress.

In coal preparation we have solicited proposals for advanced fine coal cleaning technologies to be tested in EPRI's Coal Cleaning Test Facility in Homer City, Pa. These proposals are presently being evaluated, and multiple awards are expected to be made by the end of FY 1985. Funding for this important effort is about $7 million in FY 1985 and FY 1986.

In flue gas cleanup we have solicited concepts for low cost, retrofittable flue gas treatment processes for the control of acid rain precursor emissions. Announcement of the results of this solicitation is expected imminently. FY 1985 funding for this project is $3 million.

It should be noted that funding for acid rain related research is projected to decrease by $6 million. The Department believes that this vital program will not be significantly impacted by the reduction. The decreases, which are explained more fully in a following question, include the demonstration of the Glo-Klen process and the evaluation of dry scrubbers, both of which were Congressionally mandated projects for FY 1985. No funding was requested in FY 1986 for support of the purged carbon process which was also a FY 1985 Congressional add-on. Finally, a small reduction in the Coal Preparation funding represents the completion of the Southern Illinois University cooperative agreement, but does not reduce the acid rain control effort.

Question: Other than the increase budgeted for the flue gas cleanup activities in continuing the PRDA work, do you have any other specific increases?

Answer: Other specific increases include $440,000 for chemical/biological coal cleaning and $561,000 for process modification techniques for trace containment control.

Question: What specific decreases are you proposing?

Answer: The overall reduction of $6,000,000 includes reductions in flue gas cleanup which come primarily from the combined SO_x/NO_x program since there does not appear to be any concepts from the 1983 PRDA which are ready for proof-of-concept tests. Additional reductions in flue gas cleanup include the demonstration of the Glo-Klen process and the evaluation of combined NO_x/SO_x control in dry scrubbers which were FY 1985 Congressional add-ons. The major reductions in gas stream cleanup are the on-line coal gasification tests of selected particulate and sulfur removal devices level of effort in FY 1986; and the contaminant control tests for soot and particulate trace metals which will be completed in FY 1986 and an evaluation prepared. There is a small reduction in solid waste cleanup due to the completion of the RCRA related studies. The small reduction in coal preparation represents the completion of the Southern Illinois University (SIU) Cooperative Agreement but doesn't reduce the acid rain control effort, and the FY 1985 Congressionally directed support of the purged carbon process for which no funding is requested in FY 1986.

Advanced Research and Technology Development

Question: Overall, your AR&TD proposal is for a slight increase in 1986 over 1985. Is this in keeping with the recommendations of the AR&TD peer review report?

Answer: The AR&TD Peer Review Report assessed the quality and impact of 101 individual research projects in the AR&TD program. Ten separate panels of experts conducted the review. Some of the individual panels made detailed recommendations for further research, while some did not. None of the panels, however, made any recommendations for funding levels. Further, there was no attempt to prioritize the recommendations that were made for further research.

Question: What were those major recommendations?

Answer: The major recommendations for future research are:

1. The development of detection devices and instrument systems with special emphasis on non-intrusive real time instrumentation;

2. Operate and maintain one federally owned test bed/pilot plant facility for each major coal conversion or utilization area.

3. Study and develop reactions for selectively cleaving carbon-carbon-oxygen, carbon-sulfur, and carbon-nitrogen bonds; and develop a fundamental understanding of catalyzing bond cleavage of coal to gain higher reactivity or selectivity for gasification or liquefaction products.

4. Greater support should be given to potentially high payoff long-range research and to innovative ideas for coal

processing/combustion with less short term research being done. An appreciable failure rate should be anticipated.

5. Seek an enhanced understanding of the processes of coal conversion/combustion through the study of model compounds and simplified systems, as well as catalysts.

6. Seek an enhanced understanding of the structure of coal and effects of such structure on reactivity.

7. Study the fundamental properties of alloys and ceramic materials at temperatures and ambient conditions that simulate environments approaching coal conversion processes.

8. Support materials testing in known problem areas and basic materials research in well defined areas. Much more needs to be known about the mechanical behavior of weldments, ceramics, and other materials at the pressures and temperatures found in coal conversion/combustion environments in combination; with chemically severe and highly erosive/corrosive conditions.

Question: What were the major distinctions between the peer review recommendations and recommendations included in the National Research Council's report?

Answer: The National Research Council (NRC) report "Research Priorities for Advanced Fossil Energy Technologies" presented its recommendations in the form of two proposed budget tables. Two levels of funding for AR&TD coal research were considered:

- A "minimum" level of $32.5 million; and
- An "unconstrained" level of $162.5 million.

Priorities and areas of emphasis in this report are indicated by proposed funding levels. Combustion receives the highest level of funding in the National Research Council Report — about 35% of the total at each level. The FY 1986 AR&TD request parallels this priority by funding direct utilization as the largest single activity in AR&TD.

A direct comparison of the remainder of the AR&TD program with the National Research Council's recommendations is difficult because there is not a one-to-one correspondence of budget categories. The NRC recommendation does not contain a University Coal Research Program, the Technology Base Subprogram, and at the lower level, the NRC chooses not to fund materials research. When the FY86 funding for these three subprograms is added to the NRC's $32.5 million recommendation, the AR&TD coal research budget is approximately $45.5 million.

Question: What recommendations were not followed?

Answer: The major recommendation that was not followed was at the lower or "minimum" level of AR&TD coal research funding described in the National Research Council's report. At this level, the report recommended no funding for materials research. Fossil Energy has not followed this recommendation.

Question: What is the IEA sponsored coal combustion science initiative?

Answer: The IEA Coal Combustion Science initiative is an international agreement for cooperation and information exchange in coal combustion science. It was signed by the first four signatories, Australia, Canada, The Netherlands and the United States, on March 27, 1985 at the IEA Governing Board meeting in Paris.

Question: How much is budgeted in 1985 and 1986 for this initiative?

Answer: The only funds explicitly budgeted for this agreement are for administrative expenses encountered by the United States. In both FY 1985 and FY 1986, $15,000 has been budgeted for this purpose; administrative support is provided by the Pittsburgh Energy Technology Center with assistance from the Sandia National Laboratories' Combustion Research Facility.

Research projects within the initiative are selected from those of Fossil Energy's Direct Utilization AR&TD subprogram. In both FY 1985 and FY 1986, approximately $2 million of funded projects are considered candidates for inclusion within the IEA program. Not all such candidates will ultimately be a part of the IEA program, however. As a part of the Direct Utilization AR&TD subprogram, these projects are carried out by in-house Fossil Energy scientists, at universities, national laboratories, and in the private sector; the IEA involvement will include information exchange and technology transfer activities. The exact nature of those projects proposed by the U.S. and accepted into the IEA program awaits action by the Implementing Agreement's Executive Committee which had its first meeting in the Netherlands on May 15-16, 1985.

Question: According to your justification, the exact 1985 IEA program was to have been approved by the Implementing Agreement's Executive Committee in the Netherlands on May 15, 1985. Did that happen as planned?

Answer: Yes, the Executive Committee met as planned on May 15, 1985.

Question: What was the result?

Answer: In addition to agreeing upon certain administrative procedures, the Committee approved the initial program of work, which included projects being undertaken in each of the four participating nations; Australia, Canada, The Netherlands, and the United States. All projects approved for the initial work program are already in existence within the cooperating countries; the nations agreed to exchange information about them among each other.

Question: Does the U.S. have final control over the obligation of funds for the IEA sponsored program?

Answer: The United States has complete control over the U.S. funds expended to support projects undertaken within the initiative. Annex I of the Implementing Agreement, in which the United States participates, is task-sharing; no money is transferred among nations in it. All research funds expended by the U.S. are upon U.S. projects only, from which information is exchanged with the other participating countries.

Question: How does the project selection process work?

Answer: Collaboration and information exchange among two or more countries are discussed among scientists from those nations. When they have a firm proposal for international cooperation, each presents the proposal to the Executive Committee member from his/her nation for initial approval. Thus, all U.S. projects are submitted to the U.S.

delegate to the Executive Committee before being proposed to the IEA. Upon the U.S. delegate's approval, the delegate will present the project to the full Executive Committee for their consideration. The project becomes an IEA-sponsored item only upon unanimous approval of the Executive Committee.

Question: Does the U.S. have projects or proposals that are not undertaken because other, less useful projects are directed by IEA?

Answer: No. First, all projects presented to the IEA's Executive Committee for consideration are projects that are within the Fossil Energy Direct Utilization AR&TD subprogram and have gone through the standard Fossil Energy planning and budgeting process. No projects outside the subprogram are considered. Second, any project in which the U.S. is a participant must be approved by the U.S. delegate to the Executive Committee (a DOE employee) before it is submitted to the Executive Committee for their consideration. And third, all IEA-sponsored projects must receive unanimous support from all Executive Committee members, regardless of the country of origin. There is no way a proposed Implementing Agreement project not supported by the U.S. delegate can be undertaken, even if it does not explicity involve a United States effort.

Question: You are proposing to reduce materials research by $1,651,000 (-21%). Included in that reduction is elimination of the strategic materials research program at the Idaho National Engineering Lab. How much is the reduction planned for INEL? According to your justification, this reduction was proposed because some research topics were already included in the AR&TD program and other topics were not considered a high priority. Would you provide a list of topics in each category for the record?

Answer: The materials program reduction of $1,651,000 includes a reduction of $983,000 for INEL. The INEL projects complement and could enhance the current materials program. They are of a lower priority and in view of budget constraints, we decided to defer the effort. The INEL proposal includes research in two areas with two projects in each area. In the field of structural ceramics, wherein over $1 million per year is funded, INEL proposed projects on non-destructive examination of composite and joining. These two projects are considered to be of less importance than materials research now underway. Likewise INEL proposed two projects in the aluminides field of iron-nickel aluminide (which is now funded at a level of about $0.8 million) specifically on consolidation of aluminide powders and joining of aluminides. These two specific projects were judged to be of lower priority than ongoing materials research.

Topics not considered to be of high priority either because they are not fossil related, are funded by other organizations, or not appropriate to the AR&TD mission include: corrosion or erosion mechanism studies not specific to fossil applications; projects that require a significant understanding be developed before a realistic approach can be determined, such as fabrication techniques based on physical phenomena which are poorly understood.

Question: Does DOE have a list of other projects that should be conducted at INEL?

Answer: In addition to the materials projects jointly identified, one project on biological coal cleaning will be funded by FE at INEL in FY 1985.

Question: Hasn't DOE and INEL negotiated a research program so that funded topics are complementary and not competitive or duplicative?

Answer: It is correct that the materials research planned for INEL ($983,000) has been carefully structured to complement, rather than duplicate, other, ongoing, DOE efforts. Upon learning of the directed appropriation, a series of meetings was held between FE, BOM, Oak Ridge Operations Office, Idaho Operations Office, Oak Ridge National Laboratory, and Idaho National Engineering Laboratory personnel to define research topics that (1) complemented the BOM sponsored research at INEL, (2) complemented the AR&TD program and (3) built on clearly identified strengths of the INEL. Four research proposals were developed by INEL. These proposals were reviewed by FE and BOM program managers as well as technical personnel.

Revised proposals were prepared by INEL to address questions raised during the review process. Although the INEL projects could enhance the materials area, they are of lower priority and we decided to defer the INEL effort in light of budget constraints. These proposals are now acceptable to all parties involved.

Question: Your justification indicates that you intend to "expand studies on deposition mechanisms before, during, and after combustion, with particular emphasis on ... diesel engine and gas turbine applications". How much of the increase of $946,000 will be devoted to gas turbine or diesel engine applications?

Answer: The studies referred to include research applicable to atmospheric fluidized beds, pressurized fluidized beds, conventional and coal-slurry fired boilers, diesel engines and gas turbines. Of the increase, approximately $250,000 represents an increase in deposition studies for gas turbines and diesel engines.

Question: You are proposing an increase of 92% (from $804,000 to $1,540,000) to continue investigations of separation mechanisms and processes relevant to coal beneficiation. How is this distinguished from the coal preparation research program? Is this of higher priority?

Answer: The increase is in the "Separations" component of the Advanced Research and Technology Development (AR&TD) Direct Utilization Subprogram and as such supports line Fossil Energy research and development. The AR&TD separations effort performs fundamental scientific investigations pertinent to the technologies that are the subject of Fossil Energy line R&D efforts and is designed to elucidate the underlying scientific principles (physical, chemical, thermodynamic, and biological) that govern the behavior of coal preparation and other processes. Thus, coal beneficiation studies in the AR&TD program are directly related to the Coal Preparation program in the Fossil Energy line R&D effort. The increase in funding for coal beneficiation does not necessarily indicate a higher priority. With its objective of expanding the knowledge of basic principles, the AR&TD program may be viewed as a scientific adjunct to the process and equipment R&D that occurs in the Coal Preparation program. Both programs are important elements in the Fossil Energy R&D mission.

Components

Question: The components activity seems to me to be a relatively applied area of research, relative to the other activities in the AR&TD area. Would you agree with that assessment?

Answer: The components area is not applied in that it addresses unique mechanisms of behavior in equipment that limits the operability of fossil energy processes. The fact that the equipment (i.e., valves, components, etc.) to which this research is directed is common, renders the appearance of applied research. Equipment necessary for successful operation of advanced fossil systems is not commonly available and an understanding of the behavior of solids is required for design of this equipment. This understanding is not available. The research on fundamental aspects of solids transport was initiated as a result of assessments and industrial concern which indicated its need.

Question: Yet you have proposed to increase this activity 95% (from $1,452,000 in 1985 to $2,825,000 in 1986). Why doesn't DOE consider this program to be the responsibility of the private sector? For example, the study of solids transport has as its "ultimate objective ... to improve the basis of components design" (p. 47). Does this research program focus primarily on such hardware items as chutes, hoppers, feed storage bins, reactor vessels, pumps, valves, compressors, heat exchangers, filters and other components? What would you estimate to be the size of the industries covered by that short list?

Answer: The components research program focuses on the fundamental aspects of equipment which limits the operability of advanced fossil systems. Design or testing of routine, commercially available hardware is not a part of this program. The research sponsored through this program would not be funded by the private sector since (1) the mechanisms under study are not necessary for the successful operation of conventional equipment and (2) there is no profit for the private sector in developing an understanding of the performance of equipment necessary for advanced fossil systems which will not be commercialized in the near future.

The equipment industries identified probably have sales in the hundreds of millions of dollars annually, but direct little if any funding toward the basic understanding of the behavior of their equipment in advanced coal conversion and utilization systems.

University Coal Research

Question: How does your university coal research program work? Who is eligible to compete?

Answer: The first step in the operation of the University Coal Research Program is a decision on areas of interest to be emphasized. These are usually very broad areas, such as "mechanisms and kinetics" or "coal science and analysis." Next, a notice of a Program Solicitation is published in the Commerce Business Daily. Copies of the notice are sent to all current investigators and all of last year's unsuccessful proposers. This elicits requests from investigations for copies of the Program Solicitation which are then sent. After this proposals are received, peer reviewed, and selections made. All institutions of higher education are eligible to compete.

Question: Are there areas excluded from grant consideration? Such as? How are the areas to be emphasized selected?

Answer: In practice, very few areas related to coal are excluded from consideration because the topics emphasized are quite broad. However, areas such as coal mining are excluded since the Fossil Energy program is not currently conducting research in the area. Areas to be emphasized are selected with advice from Fossil Energy line programs (e.g., Surface Coal Gasification) and from investigators in the scientific community.

Question: How many projects do you anticipate funding in 1986? Are coalitions of universities eligible to compete?

Answer: We expect to fund about 30 projects in 1986. It is believed that coalitions of universities would be eligible — in fact in 1984, we funded one university project that had a subcontract with a second university (University of Tennessee with Lehigh University).

Question: How long has this project been ongoing? How many of the projects awarded in 1985 were awarded to institutions that received grants in 1984? 1983? Please provide one table for the record showing competitors and winners for the past 5 years, which will enable us to determine if there are schools competing and winning every year and other schools not as successful.

Answer: The University Coal Research Program has been ongoing since 1980. We have not completed action on the awards for 1985, so it is necessary to compare the FY 1983 and FY 1984 awards. The comparison shows that over half of the universities receiving awards in 1984 did not receive awards in 1983.

The requested table follows.

UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED				
		1980	1981	1982	1983	1984
ALABAMA	Auburn University	8/1	4/1	4/1	3/0	4/0
	Tuskegee Institute	-	-	-	-	2/1*
	Univ. of Alabama-Huntsville	-	1/0	1/0	-	1/1
	Univ. of Alabama-Tuscaloosa	8/0	1/0	1/0	5/0	3/0
	Univ. of South Alabama	-	-	-	-	1/0
ALASKA	University of Alaska	4/1	1/1	1/0	1/0	2/1
ARIZONA	Arizona State University	3/0	-	2/0	-	-
	University of Arizona	2/0	1/0	2/2	3/1	2/0
ARKANSAS	Arkansas State University	-	-	-	1/1	-
	University of Arkansas	1/0	-	1/0	2/0	2/0
CALIFORNIA	California Inst. of Tech.	3/0	3/0	3/0	1/1	2/1
	California State Univ.-Fullerton	-	-	-	-	1/0
	Calif. State Univ.-Long Beach	1/0	-	-	-	-
	Stanford University	3/1	-	1/0	1/0	2/1
	Univ. of California-Berkeley	1/0	5/1	4/1	2/0	2/1
	Univ. of California-Davis	1/0	1/0	1/0	-	-
	Univ. of California-Irvine	1/0	-	1/0	1/0	1/0
	Univ. of California-Los Angeles	1/0	-	-	-	2/0
	Univ. of California-Riverside	-	-	1/1	-	-
	Univ. of California-San Diego	-	-	2/0	1/0	1/0
	San Diego State University	-	1/0	-	-	-
	Univ. of Southern California	-	2/0	1/0	3/1	1/0
	Westmont College	-	-	-	-	1/0
COLORADO	Colorado School of Mines	6/1	2/0	4/0	3/0	2/1**
	Colorado State University	2/0	2/0	1/0	1/0	1/0
	United States Air Force	-	-	1/0	-	-
	Univ. of Colorado-Boulder	2/1	3/1	2/1	1/0	2/1
	Univ. of Colorado-Denver	-	-	-	-	3/0
	University of Denver	-	1/0	1/0	-	-
CONNECTICUT	Univ. of Connecticut	1/0	1/0	2/0	2/0	1/0
	Thames Valley State Tech. College	1/0	-	-	-	-
	Univ. of Hartford	1/0	-	-	-	-
	Yale University	-	-	1/0	1/1	4/0
DELAWARE	University of Delaware	1/0	-	3/1	2/0	3/1

*Funded by Historically Black Colleges and Universities (HBCU) Program
**Funded by Physical, Chemical and Thermodynamic (PCT) Program.

UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED 1980	1981	1982	1983	1984
DISTRICT OF COLUMBIA	Catholic University	-	-	-	-	1/1
	George Washington University	-	-	1/0	-	-
	Howard University	1/0	-	-	-	-
FLORIDA	Florida International Univ.	-	-	-	-	1/0
	Florida State University	-	-	1/0	2/0	1/0
	Univ. of Central Florida	-	-	-	-	1/0
	University of Florida	2/0	2/0	4/0	2/0	3/0
	Univ. of South Florida	-	1/0	-	1/0	2/0
GEORGIA	Emory University	-	1/0	-	-	-
	Georgia Inst. of Technology	6/0	8/0	2/0	5/0	2/0
	Univ. of Georgia	1/0	-	-	-	1/0
IDAHO	Univ. of Idaho	1/0	-	1/0	-	1/0
ILLINOIS	Bradley University	-	-	-	1/0	-
	Illinois Inst. of Technology	6/0	3/0	5/0	1/0	1/1*
	Illinois State University	1/0	1/0	1/0	-	-
	Northwestern University	2/1	4/0	2/0	1/1	1/0
	Southern Illinois Univ.	7/1	9/1	7/2	5/1	2/0
	Univ. of Chicago	-	-	1/0	1/1	-
	Univ. of Illinois - Chicago	1/0	1/0	-	1/0	2/1
	Univ. of Illinois - Urbana	6/1	6/1	4/1	2/0	4/2*
	Western Illinois Univ.	1/0	-	-	-	1/0
INDIANA	Ball State University	-	-	-	1/0	-
	Indiana University	1/0	-	1/0	-	-
	Purdue Univ. - Indianapolis	-	1/0	-	-	-
	Purdue Univ. - West Lafayette	7/1	2/1	5/2	8/1**	9/2
	Univ. of Notre Dame	1/0	-	1/0	1/0	1/1
IOWA	Iowa State University	6/0	4/0	1/0	5/0	2/0
	Univ. of Iowa	1/0	1/0	1/0	-	-
KANSAS	Kansas State University	5/0	4/0	1/0	-	1/0
KENTUCKY	Murray State University	-	1/0	-	-	-
	Speed Scientific School	-	-	1/0	-	-
	Univ. of Kentucky	20/2	9/1	6/0	4/0	7/0
	Univ. of Louisville	1/0	1/0	-	1/0	1/0
	Western Kentucky University	-	2/1	1/0	2/0	1/0

*Funded by Solids Transport (ST) Program
**One proposal funded by PCT Program

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UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED				
		1980	1981	1982	1983	1984
LOUISIANA	Louisiana State Univ. - Baton Rouge	7/1	-	2/0	1/0	2/1
	Louisiana Tech. Univ.	1/0	-	1/0	-	-
	Northeast Louisiana Univ.	2/0	-	-	-	1/0
	Tulane University	2/0	-	-	1/0	1/0
MARYLAND	Morgan State University	-	-	-	1/0	-
	Univ. of Maryland	1/0	-	1/0	1/0	1/0
MASSACHU-SETTS	Boston College	2/0	-	-	-	-
	Boston University	1/0	1/0	1/0	-	-
	Brandeis University	-	-	-	1/0	1/0
	Clark University	2/0	1/0	-	1/0	-
	Harvard University	-	-	1/0	2/0	-
	Mass. Inst. of Tech.	10/2	6/1	6/0	6/2	4/1*
	Northeastern University	-	-	-	1/1	2/0
	Tufts University	2/0	1/0	1/0	-	1/0
	Univ. of Lowell	1/0	2/0	-	-	-
	Univ. of Mass.	2/0	1/0	1/1	-	-
	Worchester Poly. Inst.	3/0	2/0	3/0	3/0	1/0
MICHIGAN	Central Michigan Univ.	1/0	-	-	-	-
	Michigan State University	5/0	1/0	-	-	1/0
	Michigan Tech.	4/0	1/0	1/0	1/0	2/0
	Univ. of Detroit	1/0	-	-	-	1/0
	Univ. of Michigan	6/0	5/0	4/0	1/0	3/1
	Wayne State University	9/0	2/0	-	-	-
	Western Michigan University	-	2/1	-	-	1/0
MINNESOTA	Univ. of Minnesota	1/0	1/0	2/1	-	2/0
MISSISSIPPI	Mississippi State University	-	2/1	1/0	1/0	2/0
	University of Mississippi	-	-	1/0	1/0	1/0
	Univ. of Southern Mississippi	1/0	-	-	1/0	-
MISSOURI	Univ. of Missouri - Columbia	13/0	5/0	5/0	1/0	2/0
	Univ. of Missouri - Kansas Cy	-	-	-	-	1/0
	Univ. of Missouri - Rolla	2/0	-	2/0	-	1/0
	Washington University	3/1	1/1	1/0	2/0	1/0
MONTANA	Montana College of Science and Technology	3/0	1/0	1/0	1/0	1/0
	Montana State University	4/0	1/0	2/0	1/0	2/0

*Funded by ST Program

UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED				
		1980	1981	1982	1983	1984
NEBRASKA	Univ. of Nebraska - Lincoln	2/0	-	-	-	-
NEVADA	University of Nevada	-	-	1/0	-	-
NEW HAMPSHIRE	University of New Hampshire	2/0	3/0	2/0	-	3/0
NEW JERSEY	New Jersey Inst. of Tech. - Newark	2/1	1/0	1/0	1/0	-
	Princeton University	2/1	-	3/1	2/0	2/1*
	Rutgers University	-	-	-	-	2/0
	Seton Hall	1/0	-	-	-	1/0
	Stevens Inst. of Technology	2/0	1/0	2/0	-	1/0
NEW MEXICO	Eastern New Mexico University	-	1/0	-	-	-
	New Mexico Highlands Univ.	1/1	2/0	1/0	1/0	-
	New Mexico Inst. of Mining and Technology	4/0	-	-	1/0	-
	New Mexico State University	1/0	4/0	1/0	-	-
	University of New Mexico	2/0	1/0	-	2/0	-
NEW YORK	Adelphi University	2/0	2/0	2/0	-	1/0
	Alfred University	3/0	-	1/0	-	-
	City Univ. - Brooklyn College	1/0	-	-	-	-
	City Univ. - City College	3/0	1/0	1/0	1/0	1/0
	Clarkson College of Tech.	2/0	3/0	2/0	-	-
	Columbia University	5/0	1/0	2/0	-	-
	Cooper Union	-	-	-	1/0	-
	Cornell University	2/1	1/1	3/0	1/0	-
	N.Y. State Coll. of Ceramics	-	-	-	-	1/1*
	N.Y. State Univ.-Plattsburgh	1/0	-	-	-	-
	New York University	2/0	-	1/0	1/0	1/0
	Polytechnic Inst. of N.Y. - Brooklyn	2/0	1/0	-	1/0	2/1
	Polytechnic Inst. of N.Y. - Farmingdale	2/0	-	-	-	-
	Rensselaer Polytechnic Inst.	3/0	-	1/0	1/0	4/0
	State Univ. of N.Y. - Albany	4/0	1/0	1/0	1/0	-
	State Univ. of N.Y. - Binghampton	-	-	1/0	1/0	1/1
	State Univ. of N.Y. - Buffalo	1/1	4/0	6/0	3/0	2/0
	State Univ. of N.Y. - Maritime College	-	1/0	-	-	-
	State Univ. of N.Y. - Stoney Brook	2/0	-	-	-	-
	State Univ. of N.Y.-Syracuse	2/0	-	-	-	-

*Funded by ST Program

UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED				
		1980	1981	1982	1983	1984
NEW YORK (CONT.)	Syracuse University	-	1/0	-	2/0	-
	Webb Institute	1/0	-	-	-	-
NORTH CAROLINA	Duke University	1/0	-	2/1	1/0	1/0
	North Carolina State Univ.	2/1	2/1	-	1/0	3/0
	University of North Carolina	-	-	1/0	-	-
NORTH DAKOTA	North Dakota State Univ.	1/0	1/0	1/0	-	-
	Univ. of North Dakota	3/1	4/0	3/1	4/1	6/1
OHIO	Bowling Green State Univ.	-	-	-	1/0	1/0
	Case Western Res. University	7/0	2/0	1/0	1/0	2/0
	Cleveland State University	1/0	1/0	-	-	-
	Ohio University	7/1	1/0	1/0	-	1/0
	Ohio State University	11/0	3/0	-	1/0	1/0
	University of Akron	2/0	1/0	-	1/0	1/0
	University of Cincinnati	8/0	2/1	2/0	3/0	3/0
	University of Dayton	1/0	2/0	1/0	1/0	-
	University of Toledo	4/0	1/0	1/0	2/0	1/0
	Wright State University	3/0	-	-	-	-
	Youngstown State University	1/0	-	1/0	-	-
OKLAHOMA	Oklahoma State University	-	-	1/0	6/2*	3/0
	University of Oklahoma	8/1	5/0	3/0	2/1	3/0
	University of Tulsa	1/0	-	-	-	-
OREGON	Oregon State University	3/0	1/0	-	-	-
	Portland State University	-	1/0	-	-	-
	University of Oregon	1/1	-	-	-	-
PENNSYLVANIA	Carnegie Mellon University	4/1	2/1	5/1	4/0	4/1
	Chatham College	1/0	-	1/0	-	-
	Drexel University	3/0	2/0	1/0	2/0	-
	Duquesne University	1/0	1/0	-	-	1/0
	Indiana Univ. of Penna.	1/0	-	-	-	-
	Ins. of Thermo Eng. & Science	1/0	-	-	-	-
	Lafayette College	-	-	-	1/0	-
	Lehigh County Comm. College	-	-	-	1/0	-
	Lehigh University	3/1	4/1	4/1	5/0	7/1
	Lincoln University	-	-	-	-	1/0
	Penn State Univ. - McKeesport	-	1/0	-	-	-
	Penn State Univ. - Univ. Park	15/0	7/1	3/0	8/2	8/1**
	Temple University	-	1/0	-	-	-
	Univ. of Pennsylvania	2/0	-	1/0	-	3/1
	University of Pittsburgh	11/1	3/1	5/1	8/2	11/0

*One proposal funded by PCT Program
**Funded by ST Program

UNIVERSITY COAL RESEARCH PROGRAM
TABLE OF COMPETITORS AND WINNERS FY 1980-1984

STATE	UNIVERSITY	NUMBER OF PROPOSALS REC'D/ACCEPTED				
		1980	1981	1982	1983	1984
RHODE ISLAND	Brown University	1/0	-	-	2/2*	2/0
	University of Rhode Island	1/0	1/1	1/0	-	1/0
SOUTH CAROLINA	Furman University	1/0	1/0	-	-	-
	University of South Carolina	1/0	-	-	1/0	1/0
SOUTH DAKOTA	S.D. School of Mines & Tech.	2/0	-	1/0	1/0	2/1
TENNESSEE	East Tennessee State Univ.	1/0	-	-	-	-
	Fisk University	-	-	-	1/0	-
	Tennessee Tech. University	1/0	2/0	-	1/0	1/0
	Univ. of Tenn. - Chattanooga	2/0	1/0	-	-	-
	Univ. of Tenn. - Knoxville	4/1	1/0	5/0	3/1	2/1
	Univ. of Tenn. - Space Inst.	-	-	1/0	1/0	1/0
	Vanderbilt University	-	-	-	2/0	1/0
TEXAS	Lamar University	-	-	-	1/0	1/0
	North Texas State University	-	-	2/0	1/0	-
	Texas A. & M. University	10/1	11/0	8/0	14/0	9/0
	Texas Christian University	-	-	2/0	1/0	-
	Texas Southern University	-	-	-	-	1/1**
	Texas Tech. University	3/0	-	1/0	1/0	3/0
	Univ. of Houston	4/0	2/0	1/0	-	1/0
	Univ. of Texas - Arlington	1/0	-	-	1/0	-
	Univ. of Texas - Austin	16/0	4/1	1/1	3/0	1/0
	William Marsh Rice University	2/0	2/1	1/0	3/1*	2/0
UTAH	Brigham Young University	3/0	3/0	2/1	3/2*	1/0
	University of Utah	21/3	9/2	5/1	6/1	6/3
	Utah State University	1/0	-	-	-	-
VIRGINIA	University of Virginia	-	-	1/0	-	1/0
	Virginia Commonwealth Univ.	1/1	1/1	-	2/0	1/0
	Va. Polytechnic Inst. & State University	10/1	6/1	4/0	4/1	5/1
WASHINGTON	Gonzaga University	1/0	-	-	-	-
	Univ. of Washington	1/0	1/0	2/0	-	3/0
	Washington State University	6/2	7/3	2/0	4/0	4/0
WEST VIRGINIA	West Virginia University	29/3	14/0	4/1	7/0	5/1
WISCONSIN	Marquette University	1/0	-	-	-	-
	Univ. of Wisconsin - Madison	1/1	-	-	1/0	1/0
	Univ. of Wisconsin - Milwaukee	2/0	2/0	1/0	1/0	-
WYOMING	University of Wyoming	6/0	2/0	1/0	1/0	5/0

*One proposal funded by PCT Program
**Funded by HBCU Program

Coal Liquefaction

Question: Mr. Secretary, after adjusting your request to reflect the transfer of some funding into this activity from the AR&TD account, it appears to me that you are reducing the coal liquefaction account by $11,496,000 (from $30,882,000 to $19,386,000 or -37%). I think it is fair to say that that is a pretty substantial reduction, is it not?

Answer: Yes, but a large portion of the reduction in the coal liquefaction account reflects the completion of proof-of-concept projects.

Question: According to our data, the completion of activities at two plants (La Porte, Texas and Wilsonville, Alabama) results in savings of $3,234,000 at La Porte and $5,458,000 at Wilsonville, for a total savings of $8,692,000 or 76% of the total reduction proposed by the Department. In other words, if you can't close those plants, then you can't show much of a savings, can you?

Answer: Your calculations appear accurate. However, we do recommend stopping work at the two proof-of-concept facilities you mentioned.

Wilsonville

Question: If we just look at the original objectives for Wilsonville, have they been met? Will we have carried the proof-of-concept testing of the two-stage liquefaction process to a completed state by the end of FY 1985?

Answer: It is our judgment that the original objectives for Wilsonville have been met and exceeded. By the end of FY 1985 proof-of-concept testing will be completed at Wilsonville of an integrated two stage liquefaction process utilizing interstage deashing. Both bituminous and subbituminous coals have been tested over a range of operating conditions. Results have shown that this process provides high yields of high quality distillates with more efficient utilization of hydrogen. The Department believes that further development of this concept is the responsibility of industry and the data available from Wilsonville provides them with information they need to make decisions regarding additional development efforts.

Question: Will we be in a position by October 1, 1985 to recommend what, if any, usage of Wilsonville makes economic and scientific sense in 1986?

Answer: At the end of the current operating period Wilsonville will have generated substantial data on a two-stage liquefaction concept using both a bituminous and a subbituminous coal. The Administration's position is that the selection and ultimate commercialization of synfuels technology is the responsibility of the private sector. With the data available from Wilsonville, industry can make decisions regarding additional development efforts.

Question: Are there concepts that could potentially be tested at Wilsonville in 1986? At what cost? Are there other sites those items could be tested? At what cost?

Answer: In FY 1985 Wilsonville will have completed proof-of-concept testing of the integrated two stage liquefaction process. The Department believes that further development of this concept is the responsibility of industry. EPRI and Southern Company Services (SCS) are proposing that Wilsonville operations could be continued in FY 1986 with emphasis on further improvements in the two-stage liquefaction concept, specifically to evaluate a reactor operation to avoid interstage deashing and simplify overall deashing requirements.

The more advanced configurations under study at bench scale, such as coal-oil coprocessing and close coupled direct catalytic process will not be ready for proof-of-concept testing prior to 1987.

When these advanced concepts are ready, other sites besides Wilsonville which might be suitable include the PDU at the HRI laboratory near Trenton, New Jersey and a 6TPD PDU at the Chevron facility in Richmond, California.

Question: Who owns Wilsonville? What is its market value? Its replacement cost? Could the plant be operated commercially at a profit?

Answer: Wilsonville is owned by the Electric Power Research Institute. Its market value is unknown. Although there have been no formal cost estimates a consensus estimate of engineers familiar with the Wilsonville facility put the replacement cost at $30-35 million. Wilsonville was designed and built as a research facility. It could not be operated commercially at a profit.

Question: Please provide for the record a list of project participants at Wilsonville, including an estimate of cost-sharing contributions over the years.

Answer: The major project participants have been DOE, EPRI, and Southern Company Services Corp. (SCS). From 1976 through 1984, the funding contributions from DOE and EPRI are:

DOE	$51,300,000
EPRI	$25,100,000

In addition, SCS has provided Project Management services at no cost to the project. Kerr-McGee has provided the use of their Critical Solvent Deashing Unit at Wilsonville since 1978, and has provided technical support for its operation. In 1984, Amoco joined the project as a partner of EPRI and has contributed $300,000 a year to the project.

La Porte

Question: We have heard that the La Porte facility should be operated another year in order to produce additional data on liquid phase methanol production. What would you learn if La Porte were run another year? What would DOE be willing to pay for that research?

Answer: If the LaPorte project were funded, and the process development unit (PDU) operated one more year, a long duration run of 4 to 6 months could provide industrial participants more information regarding catalyst deactivation rates, system stability, and techniques to maintain constant methanol productivity. Shorter runs could provide more data on the effects of process variables on performance. Additional support research could provide more information on the effects of catalyst loading and gas throughput on productivity.

The Department believes that sufficient data is available for industry to make investment decisions regarding further development of the liquid phase methanol process, and further funding by the Government is not required.

Question: Who owns La Porte? What is its market value? Its replacement cost?

Answer: The skid mounted PDU is owned by the Government but it is located at a commercial site owned by the contractor, Air Products and Chemicals, Inc.

The skid mounted unit is designed for this specific process development effort and is not believed to have any market value as a unit for other uses. The unit would have some value to any industrial firm interested in further investigation of the liquid phase methanol process at this scale.

If the PDU were replaced in the near future, an engineering consensus estimate is that the cost would be 6 to 7 million dollars.

Question: Who has paid for research runs at La Porte? If Congress does not add funds to continue LaPorte, what would happen to those plants and at what cost? Please elaborate for the record.

Answer: Over the life of the contract from FY 1981 through FY 1985, DOE has provided 91% of the funds ($16,600,000) and the industrial participants about 9% ($1,600,000). Industrial participants include the Electric Power Research Institute, Air Products and Chemicals, Inc., Fluor Engineers and Chem Systems, Inc. The industrial participants also have provided some equipment and research support, not included in the contract.

If funds are not appropriated to continue LaPorte (Liquid Phase Methanol Project) the following options are available regarding the PDU:

1. Under Federal property regulations, disposition of the Government owned PDU, allowing for salvage credit, would require a period of about 12 months and cost an estimated $400,000. This assumes the current contract is completed without termination costs and that industry will not have interest in acquiring the PDU for further liquid phase methanol process development.

2. The PDU could be placed in stand by conditions and stored on the contractor's site at a first year cost of about $400,000. Annual maintenance costs after the first year could be about $200,000.

Question: What is the biomedical research described in your justifications? Who does biomedical research for DOE? Why does DOE fund it? How many technology areas have supporting biomedical research initiatives? Please provide a complete justification for the record.

Answer: The coal liquefaction technology program supports health effects screening studies (also called biomedical tests) to evaluate how changes in process design and upgrading options affect bioactivity of coal liquids. The objective of the program is to provide information on processing options that can be used to produce less bioactive, more environmentally benign products to assure market acceptable fuels. At the present time the health effects studies in Fossil Energy are limited to the coal liquefaction technology area in part because of the known bioactivity of some products of direct liquefaction, but also because of the diversity of engineering and process changes which can be manipulated to vary the product quality in liquefaction.

Coal liquefaction oils have been known to produce skin cancer in humans (Institute, West Virginia liquefaction plant in the 1950's) but little was known on what caused the bioactivity, how pervasive it was in the fuel mixture and how to reduce or eliminate it. To answer these questions, the Coal Liquefaction program initiated and presently supports screening studies in cooperation with the Energy Research Office of Health and Environmental Research (OHER) at the Oak Ridge and Pacific Northwest National Laboratories. The OHER program is committed to long-term generic research and does not provide the type of process information needed for engineering decisions on technology development.

The liquefaction health effects technology directed program has produced notable successes in providing information needed to produce a more environmentally acceptable product. The studies have shown that bioactivity is greatly reduced when the process:

o eliminates material boiling above 650°F from the products,
o uses short contact time in the reactor,
o recycles heavy ends to extinction,
o uses two-stage versus single-stage processes, and
o upgrades products by hydrotreatment.

Presently the program is examining products from various two-stage processing configurations, catalyst effects and co-processing options in terms of the bioactivity/quality of these products.

Combustion Systems

Question: Overall, your request for combustion systems is for $29,243,000, a reduction of $975,000 (-3%) from 1985 appropriations to date. This masks a shift of emphasis, however, in that your alternative fuels program is reduced by $2,904,000 (-41%) while your pressurized fluidized bed combustion program is increased by $2,786,00 (+113%). Why is this shift occurring?

Answer: For FY 1985, the appropriation for the Pressurized Fluidized Bed Combustion Program was $2,458,000 because it anticipated the completion of the IEA Grimethorpe tests, as well as the Long Term Materials Test. The PFB program in FY 1986 has been directed toward two main areas of concern. First, testing of key critical components to reduce the risk for commercialization of first generation PFB power plants, second, the development of second generation PFB units which will reduce the cost of electricity by 25% from present day pulverized coal-fired units while meeting or exceeding the environmental NSPS. The FY 1986 request is not an increased emphasis on the PFB but rather reflects the funds necessary to maintain the program as originally defined.

The alternative fuels program request for FY 1986 reflects the fact that combustion characterization of CLM for utility and large industrial applications had been completed in FY 1985 as well as the preliminary characterization for CLM in the heat engines program. The program will now concentrate on characterizing CLM/micro-coal fuels for the light industrial, commercial and residential markets.

Question: As an example of the programs to be cut or eliminated, the combustion and component characterization of coal-water mixtures in utility and large industrial boiler applications will be eliminated. How long had this research been ongoing?

Answer: Component and characterization activities were initiated in October 1981. The specific R&D for utility and large industrial requirements was started in June 1983 and will be completed in October 1985.

Question: What would be the next area of research if funds were provided?

Answer: Initiate generic combustion characterization R&D for CLM and micro-coal fuels in light industrial, residential, commercial and institutional boiler/furnace systems.

Question: What is the status of the TVA/EPRI atmospheric fluidized-bed combustion plant?

Answer: The demonstration plant is currently in detailed engineering or design. A contract was awarded to Fluor Corp. in December 1984 for plant erection. Site preparation is scheduled to commence in September 1985.

Question: What will be the total DOE costs anticipated?

Answer: The total estimated cost of the 160 MWe demonstration project is $220,000,000. Currently $190,500,000 has been committed to the project with the remaining funds to be committed by the Atmospheric Fluidized Bed Development Corporation by June 1985.

Contributions are as follows:

	$ in Millions
Tennessee Valley Authority	$ 40.0
Electric Power Research Institute	75.0
Department of Energy	30.0
Duke Power Company	10.0
Commonwealth of Kentucky	10.0
Combustion Engineering	20.0
Fluor Corporation	5.5
Total	$190.5

Question: What is the long-term research plan and schedule for the facility?

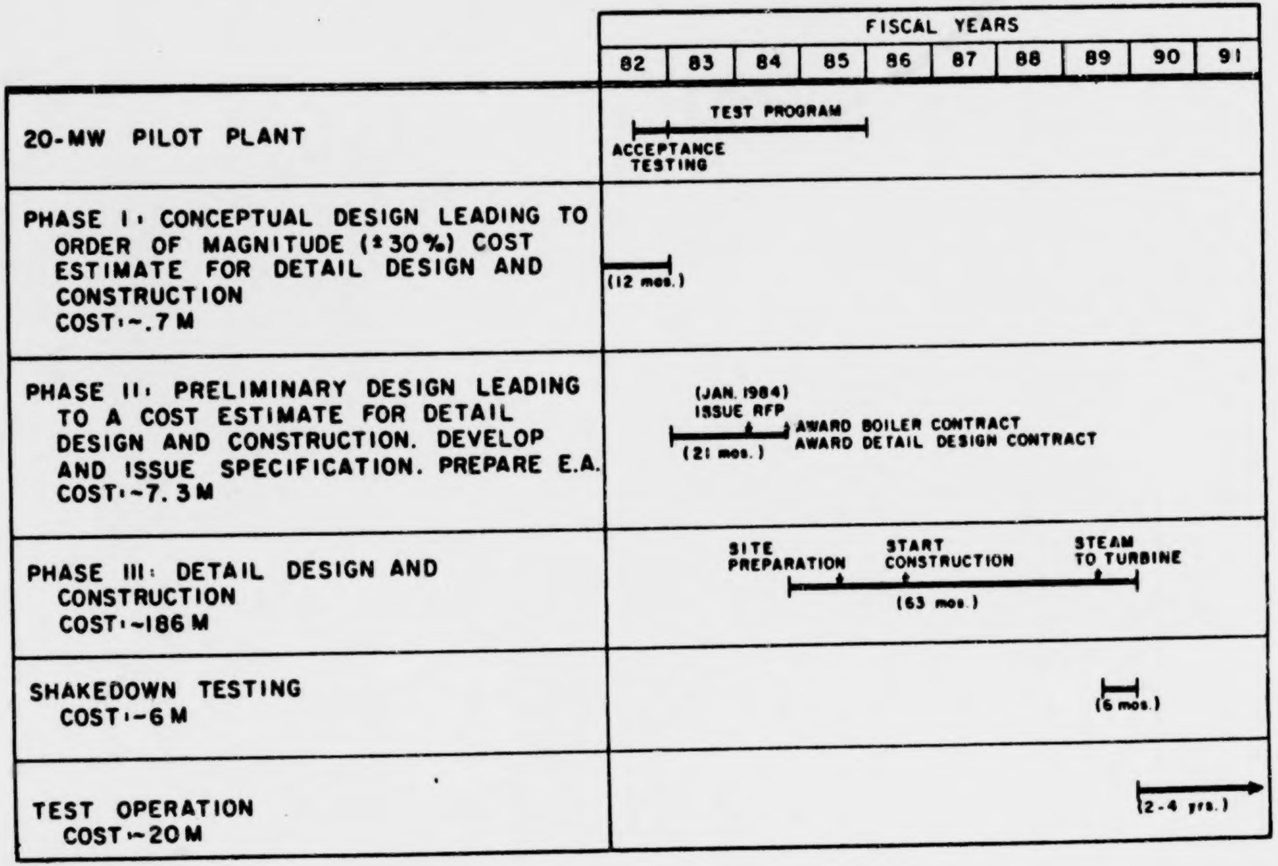
Answer: The purpose of the 160 MWe demonstration plant is to develop enough operating and technical data to confirm the projected plant availability, reliability, and performance from an economic and environmental standpoint. Parametric testing will be performed for eighteen months followed by continuous plant operation with a fixed plant configuration to obtain performance and reliability data. These two testing periods and the startup testing will make a total test program of four years.

The data will be used to make configuration changes necessary to optimize the performance of the plant and/or influence the designs of future AFBC plants. The proposed objectives of the demonstration plant are as follows:

- Demonstration of large-scale AFBC operating, economic, and environmental performance.
- Demonstration of plant capability and performance for load following and two-shift operation.
- Demonstration of a large-scale AFBC in a commercial utility environment.
- Development of technical data needed to design future commercial plants.

The schedule for the facility follows.

AFBC DEMONSTRATION PLANT SCHEDULE



Question: You are proposing to initiate a cost-shared program with industry to investigate PFB component needs for a high efficiency PFB system. How much do you anticipate committing to this effort?

Answer: It is estimated that the PFB advanced concepts program would cost approximately $25,000,000 to $30,000,000, based on costs of similar programs underway in the AFB advanced concepts program and from experience obtained at the Small Gas Turbine facility. The government is seeking overall contractor cost-sharing in the range of 30 to 50 percent. A more definitive cost estimate would be available following contract award.

Question: What is the relationship between this proposal and the $1,500,000 budgeted to test key critical PFB process components?

Answer: The objective of the PFB advanced concepts program is to provide the systems design and economics foundation for prototype second-generation, coal-fired commercial PFB systems which would be commercialized in the late 1990's. This advanced cycle should represent an advance in coal to electricity conversion efficiency to approach 45 percent and result in a cost of electricity at least 20 percent below that of conventional pulverized coal boiler systems with flue gas desulfurization. The budget request to test key critical PFB process components is focused on supporting industry's commercialization of first generation, steam-cooled combined cycle PFB systems and the turbo-charged boiler concept, both of which are under active consideration by the electric utility sector for demonstration by the late 1980's.

Question: How does it relate to activities currently under negotiation for Grimethorpe?

Answer: The Grimethorpe follow-on program is directed toward providing pilot scale data on those areas identified as critical to commercialization of first generation PFB systems (including the turbo-charged boiler system). Items which would be tested in the follow-on program include a U.S. designed tube bundle and coal water mixture as a fuel to determine performance and erosion characteristics of the tube bundle design, an advanced hot gas cleanup device and a coal water mixtures feed system. The data obtained from the Grimethorpe test program as well as data from the various PFB test rigs would provide the basis for advanced concepts design. At present, DOE is negotiating with the National Coal Board (NCB) for a cooperative test program at Grimethorpe.

Question: How much would be used to test the retrofit external slagging combustor (AVCO concept) and the advanced slagging combustor (TRW concept)?

Answer: During FY 1986, approximately $800,000 will be required under the advanced combustion technology program to fund the planned work in the AVCO project. The TRW project has been fully funded in prior years and will require no FY 1986 funds.

Question: How would you distinguish between these two efforts?

Answer: The primary difference between these two concepts are those of configuration and method of cooling. The TRW concept is water cooled and somewhat bulky in shape, while the AVCO concept is refractory lined and more compact.

Question: What are their advantages and their potential applications?

Answer: The larger, water cooled TRW concept lends itself to heavy industrial and utility applications where space is available for its installation and where the hot water or steam produced from cooling can be utilized.

The AVCO concept, being more compact in size and refractory lined, is adaptable not only to the larger users but to small applications such as light industrial and commercial/institutional sites where space is a primary concern, and where the steam or hot water generated in cooling the TRW combustor could not be effectively utilized.

Phosphoric Acid Fuel Cells (PAFC)

Question: We hear that the Department and UTC have been unable to reach agreement on a number of contract issues relating to phosphoric acid fuel cells, especially to the cell and stack technology development issue and to the electric utility PAFC power plant component technology issue. What is the status of those discussions?

Answer: Negotiations are continuing in an attempt to resolve the contractual differences on DOE contract FE-60338 related to PAFC cell and stack development.

Power plant component technology development is being performed under a task order contract. Initiation of this contract was delayed by lengthy negotiations but funds have now been obligated for four tasks and funds for additional tasks are expected to be obligated in the near future.

Question: Could you elaborate for the record?

Answer: United Technologies Corporation is developing phosphoric acid fuel cell technology applicable to an 11 MW electric utility power plant through two contracts:

- o DOE contract FE-60338 of May 1983.
- o NASA Lewis Research Center task order contract DEN3-364 of February 1985.

The DOE contract provides for the development of a commercial prototype utility-scale fuel cell stack. The NASA task order contract provides for balance of plant technology development in support of the 11 MW power plant, and in addition, some advanced cell and stack efforts.

DOE contract FE-60338

This contract has an estimated total value of $14,273,659, with a DOE funding obligation of $11,679,659 for work performed in accordance with the statement of work. To date, DOE has provided funding of $10,600,000 for this contract.

The contract requires the fabrication and test of four full area short stacks and one full area, full height (approximately 500 cells) stack. The contract requires the full height stack to be tested for 1000 hours using DOE funds. Additionally, the contract requires the contractor to: 1) provide equipment for test of the full height stack, 2) provide specified process equipment, 3) provide an additional 3500 hours of testing of the full height stack and 4) provide for all contract cost overruns above the government's obligation of $11,679,659.

UTC has experienced a cost overrun on the contract and is requesting DOE to cost share the funding for the overrun. DOE has recently reduced the 11 MW contract scope (elimination of lower priority process development activities) to allocate funding to essential contract tasks. Following contract scope reduction, the overrun has been reduced to $2,000,000. UTC has offered to contribute $300,000 of capital equipment as a contribution toward the overrun and has requested DOE to provide the remaining $1,700,000. The funding required to complete the DOE contract is now $2,779,659 (through 1000 hours test of the full height stack). UTC has also informed DOE that they are unable to provide the additional 3500 hours of full height stack testing.

Contractual negotiations are continuing.

NASA Task Order Contract

Of the $9,000,000 appropriated in FY 1984 for the 11 MW phosphoric acid electric utility program, $4,000,000 was allocated for 11 MW balance of plant work. DOE and NASA decided upon a separate task order contract as the procurement approach for this additional work in order to separate balance of plant technology development from the principal stack development effort. In addition to the $4,000,000, Congress appropriated $2,000,000 in FY 1984 AR&TD funds for a total of $6,000,000 for the task order contract. The balance of tasks envisioned for the task order include: inverter, reformer and water treatment system. In addition, NASA included an option for cell and stack improvements. This cell and stack work is related to advanced on-site technology and is specifically unrelated to the development and verification of the 10 square feet stacks of the DOE FE-60338 contract. FY 1985 funds of up to $2,600,000 are available for obligation on this contract.

Following the prolonged negotiations to initiate this contract, the obligation of funds on individual tasks is proceeding with four tasks underway and additional tasks expected to be started shortly.

Question: Are there PAFC tests, contracts, etc., that might extend beyond the end of FY 1985 and required DOE funding assistance?

Answer: It is the Department's opinion that no DOE funding assistance is required beyond FY 1985 in PAFC. The technology has been developed through proof-of-concept and it is considered the private sector's responsibility (and opportunity) to proceed with product commercialization.

Question: Even though no new PAFC funding is requested, please provide for the record a list of PAFC activities and associated outlays that will continue into FY 1986 and beyond.

Answer: With no PAFC funding in FY 1986 the following PAFC activities are estimated to continue into FY 1986 on outlays of prior year funds as shown:

- Westinghouse 7.5 MW system development would continue into February 1986 on outlays of $4 million.
- UTC 11 MW cell and stack development would continue into August 1986 on outlays of $1 million.
- UTC power plant component technology would continue into May 1986 on outlays of $3 million.
- UTC on-site technology development would continue into February 1986 on outlays of $2 million.
- Engelhard on-site technology development would continue into February 1986 on outlays of $0.7 million.

Molten Carbonate Fuel Cells (MCFC)

Question: Molten carbonate fuel cell program funding is proposed at a level of $6,400,000 in 1986, a reduction of $2,451,000 (-28%) from 1985 levels. What is the major reduction proposed in the MCFC program area?

Answer: The major reduction is in the area of the direct reforming fuel cell concept which is considered to have passed the proof-of-concept stage.

Question: How many major competing contractors are there in the MCFC area?

Answer: There are currently two major competing contractors in the MCFC area. They are United Technologies Corporation and Energy Research Corporation. In addition, the Institute of Gas Technology is continuing to investigate the tolerance of molten carbonate fuel cells to fuel contaminants.

Question: Would you provide a comparison of the alternative technologies?

Answer: A brief comparison of the technologies is tabulated below. Materials, components, and processing techniques also vary with the two developers.

	UTC	ERC
Fuel reforming	External to cell	Internal to cell
Cell operating pressure	Up to 150 psi	Atmospheric pressure
Level of development	Extensive tests in subscale stacks have been achieved and full size cell components are being developed.	The internal reforming concept has been verified in single cells and component development at the cell level has been achieved.

Question: What is the technical or economic reason for selecting one MCFC technology to proceed with at this time?

Answer: The internal reforming concept is expected to be adaptable to various stack designs and should not require a separate stack development effort. The reforming catalyst could be incorporated into the anode compartment by redesign of several cell components and by some modifications of system operating conditions.

Question: How much have we spent to date on MCFC research?

Answer: The Department of Energy has spent approximately $78 million on MCFC research through FY 1985.

Question: Ten years from now, if we have spent $300 million for MCFC (as we have for PAFC), will we wish we would have carried the development of various and competing technologies a few extra years before selecting one or the other?

Answer: It is very difficult to estimate what our perspective will be ten years in the future. It is the judgment of the Department that more progress in MCFC can be made with available funds by concentrating on a single stack development effort and still be able to incorporate the internal reforming concept for some applications.

Question: Is all of the 1985 MCFC money obligated?

Answer: No. $2,693,000 is unobligated out of the total FY 1985 allocation of $8,851,000.

Question: If not, how much is unobligated and why the delay?

Answer: A breakdown of the unobligated money is as follows:

- o $2,340,000 for modification to existing ERC contract. The contractor's proposal is undergoing technical evaluation and award is expected by August 1, 1985.
- o $300,000 for metal coated ceramic anode competitive proposals which were received May 23, 1985. Award is expected by September 15, 1985.
- o $50,000 for an unsolicited proposal for tests of nickel transport from cathodes. Award is expected by August 15, 1985.
- o $3,000 for additional tests on current IGT contract to determine effect of sulfur on molten carbonate fuel cells. Award is expected by July 15, 1985.

The timing of these obligations reflect procurement and negotiation lead time in the cases of new procurements and reflect completion of previously contracted work in the case of modification of existing contracts.

Heat Engines

Question: Mr. Secretary, what are the potential savings in energy requirements and in NO_x and SO_x emissions and in dollar savings of the successful development of direct coal-fired diesel engines? Gas turbines?

Answer: Assuming that the efficiency advantages of the diesel cycle were retained in substituting direct coal-firing for diesel oil, there would be no appreciable change in energy requirements. Also, SO_x emissions would be essentially the same since the coal fuel will necessarily have to be highly beneficiated. We do not have sufficient data to predict whether NO_x emissions would be affected in switching to coal fuel. As to potential fuel cost savings, we must compare recent and projected price trends for diesel oil and raw coal. In constant 1982 dollars, diesel fuel cost $2.40 per million Btus in 1970, $7.30 in 1980, and is expected to exceed $13.00 by the end of the century. Corresponding raw coal price figures are: $0.63, $1.28, and $1.76 (DOE/PE-0029/2, October 1983). In 1980, the railroads paid over $4 billion for 4.1 billion gallons of oil. At the same rate of consumption (neglecting economic growth), their fuel bill would reach nearly $8 billion by the year 2000. Raw coal, to furnish the same amount of energy, would cost around $1.2 billion. The DOE is attempting to develop coal fuel types that would cost the user one half, or less, the price of diesel oil. Thus, we are looking at an opportunity for the railroads to save upwards to $4 billion annually in fuel costs by the turn of the century.

Conversion of gas turbines from oil to coal also would not be expected to appreciably affect energy requirements or SO_x emissions for similar efficiencies. As to NO_x emissions, coal-fired gas turbine combustor designs have been extensively tested to meet New Source Performance Standards for NO_x emissions by utilities (i.e., 75 parts per million). Potential dollar savings in shifting gas turbines from oil to coal presents a complicated question. Gas turbine capacity growth in the U.S. was abruptly halted in the late 1970's by a combination of rising distillate fuel costs and the Fuels Use Act. Thus, the principal direct benefit of coal-fired gas turbine power would be realized in the resumption of the rapid growth rate that existed in the 1960-80 period, when installed capacity rose from a few thousand megawatts to 65,000 megawatts. Thus, coal-firing would again make available the acknowledged efficiency, lead time, modularity, plant requirements, and other cost advantages of gas turbine power systems to U.S. utilities and energy-intensive industries. It is therefore difficult to quantify the potential savings except in a highly simplistic manner. For example, if the conservative assumption is made that 40,000 MW of eligible installed capacity existed in the year 2000, coal-firing would save approximately $18 billion annually (versus oil) based on the fuel price projections noted previously.

Question: What are the remaining technical problems to be solved? What is the earliest practical date that you would foresee significant savings due to this research activity?

Answer: The principal technical problems remaining to be solved relate to durability of engine components when fired by coal fuels containing minute traces of hard, abrasive ash particles. This applies especially to reciprocating piston-cylinder surfaces and fuel injection components. We are approaching these problems by attempting to improve both fuel quality and engine component wear resistance. The combustion characteristics of coal fuels present other engine design problems. Assuming a reasonable rate of technical progress, significant savings could not be expected much before 1995.

Question: What have tests shown to date on emissions from coal-fired locomotives when compared to diesel locomotives? If all of the locomotives in the country were to be converted to coal-fired engines over a 10 to 20 year period, what would be the impact on energy requirements?

Answer: It is impossible to compare the emissions of diesel and coal-fired locomotives on an equitable basis. Test data are insufficient in terms of specific locomotive types, fuel quality, and analytical procedures. It is similarly impossible to estimate what effect the conversion of all U.S. locomotives to coal would have on energy requirements without stipulating the specific operating characteristics of the coal-fired locomotives. However, as noted in a previous answer, conversion of distillate fired diesels to coal-firing would afford railroads an opportunity to save upwards to $4 billion annually in fuel costs.

Underground Coal Gasification

Question: The major gas technology program in 1986 will be the field testing of a parallel row facility, to be cost-shared with funds from GRI. What is the status of that test?

Answer: An industrial consortium headed by the Gas Research Institute has been organized to cofund and manage the field test program. Their proposal has been reviewed and METC's procurement department has given them formal notice of DOE's intention to negotiate a contract, to be effective in August 1985, with Stearns Catalytic selected to be the project manager. Negotiations will be with Stearns Catalytic Corporation.

Question: What has been demonstrated to date?

Answer: The previous Tono I field test was the first field testing of the CRIP process which allows reignition of the coal as necessary at the bottom of a coal seam and thereby essentially guarantees higher thermal efficiency, better resource recovery, better control, and the ability to recover from "coal seam override". This test demonstrated the operability of the technique and established the necessary data for a larger scale test to determine the optimum operational parameters.

Question: What is planned for 1986?

Answer: During FY 1986, the final site characterization will be completed to be followed by necessary drilling activities and the installation of the on-site equipment and check-out to take place in the spring of 1986 and the gasification experiment to take place in early to mid fiscal year 1987. The project is being managed for DOE by Stearns Catalytic. This test is a logical follow-on to the Tono I test and will serve to verify the CRIP process, parallel row operation, longer term operation, and a number of other variables needed for design input by industry or for the completion or advancement of process models relative to Underground Coal Gasification.

Question: The Department has proposed the continuation of the international technology transfer program in 1986 at a cost of $100,000.

What country is the leader in underground coal gasification?

Answer: At the present time, the world leader in the understanding of the underground coal gasification (UCG) processes is the United States.

Question: Are we providing technical assistance to countries such as Brazil and Spain or are we primarily gathering data from tests run in those countries?

Answer: Cooperation with foreign countries in the development of the technology at the present time is primarily an information exchange and task sharing program. The expected payoff for the United States from these efforts is the data that may be obtained from monitoring the operation of any large scale tests that may be undertaken in these countries, and the business opportunities generated for U.S. industries. Because of the lack of energy alternatives in many countries, there is a high probability that large scale operation will occur outside of the U.S. prior to operations domestically even though such operations will utilize U.S. technology. Several small contracts have already been received by U.S. industries as a result of these efforts and there is a high probability that more and larger contracts will follow. The DOE program will benefit from the data gathered with a higher probability of early success of the first tests in this country.

Question: You are proposing to reduce the environmental and advanced research activity by $638,000 (-21%). Have we completed characterization of contaminants and wastes generated by underground coal gasification?

Answer: The identification and characterization of the contaminants from UCG operations are reasonably well understood. Additional research is required in the areas of development of procedures for contaminant mitigation and/or in the area of aquifer cleanup. Much of the basic data necessary for development of these procedures and models has been developed in the program and will be augmented by the data from the upcoming 100-day field test at Centralia, Washington. Because of the research opportunities afforded by a longer duration, parallel row field test, it is believed that a separate program to generate these data is not necessary at this time.

Question: How much of our parallel row field test budget for 1986 ($2,360,000) is related to environmental aspects?

Answer: In FY 1986, $2,460,000 in program funds are allocated to the Technology Base Development portion of the UCG effort. Program funding dedicated to support the parallel row field tests are $2,360,000. Of these funds, $200,000 are specifically allocated for environmental monitoring and research at the Centralia site. In addition, there is a parallel effort in more generic environmental activities that is being funded out of the Environmental and Advanced Research budget line and many of these activities will be accomplished at the same site.

MHD

Question: Mr. Secretary, I won't criticize you for your 1985 and 1986 MHD proposals. I know that if you had your way, you would have continued this program at roughly last year's level.

What we need to do now is to understand what will be done in 1986 if we overturn your 1985 deferral and restore funding in 1986. Could you characterize your 1986 MHD program for us if these funds were restored?

Answer: If the Congress restores funding for FY 1986, the Department will continue to implement the program in accordance with the program plan submitted to Congress in June 1984. The MHD program is a focused, proof-of-concept effort that includes the configuration and testing of an integrated topping cycle, an integrated bottoming cycle, systems integration and supporting research. Efforts would concentrate on critical technical issues as well as the least cost, shortest development time plan to establish the technology base. The key to the program is significant cost-sharing in all program phases by both the industry and government.

Question: What have we lost in 1985 as a result of the delay in program operations due to the deferral process?

Answer: There has been some delay in program operations but not due to the deferral process. Three new initiatives, viz., seed regeneration R&D, a conceptual design study of a retrofit plant, and the acquisition of an integration contractor have been delayed pending deliberations in public meetings with industry concerning cost sharing.

Question: Can that time be made up? Should we consider appropriating, say $10 million in 1986 in order to reflect the delay caused in 1985 by the deferral?

Answer: The delays in the program activities would not be affected by additional funding.

Surface Coal Gasification

Question: Your proposal for the surface coal gasification program is for a reduction of $16,983,000 (-53%) from 1985 appropriations to date. The major reductions (-$7,375,000) are for the KILnGAS process and for the Waltz Mill hot gas cleanup activity (-$6,392,000).

Are there substitute facilities to Waltz Mill to continue research on the study, development and evaluation of integrated gasification hot gas cleanup, and fuel use systems for utility applications? Is there work planned in 1986 in this technology? Where and at what cost?

Answer: There are facilities other than Waltz Mill in which studies on the development and evaluation of integrated gasification hot gas cleanup and fuel use systems for utility application can be performed.

Included among these are the gasifier test facilities at the Morgantown Energy Technology Center. These capabilities include:

o The Fixed-Bed Gasifier Facility
In FY 1986, it is anticipated that this gasifier will be operated to examine gasifier operational characteristics using in-bed sulfur capture agents. This research will enhance the use of fixed-bed gasifiers in power generation cycles using hot gas cleanup. Full characterization of product streams for sulfur species, alkali metals and particulates that affect the operation of gas turbine systems will be made. Additional operations with the fixed-bed gasifier will be conducted to investigate the performance of advanced chemical tehniques for the removal of sulfur and other contaminants. In FY 1986, the funding for the operation of this gasifier is expected to be $700,000-$900,000.

o Advanced Gasifier Concepts Facility
The Advanced Gasification Facility at METC includes a small scale fluidized bed reactor system (6 inch internal diameter). Its main role is that of a flexible gas generator that produces a characteristic gas stream for component testing. Testing of instrumentation and hot gas cleanup devices are the principal component systems that have been and are being tested on a small scale. Testing in this facility will be continued in FY 1986 at an approximate level of $300,000.

Question: Are there other technologies ready to move to the proof-of-concept stage? Please describe them, including estimated schedules, costs, locations, and issues to be tested.

Answer: The work underway in hot gas cleanup in the DOE program is currently at a bench scale stage of development. While a number of promising approaches are under investigation, there are not any concepts ready to move into the proof-of-concept stage of development. Considerably more research and development is required on the concepts under study before testing at that scale will be required.

QUESTIONS SUBMITTED BY SENATOR MARK ANDREWS

Question: Considering the growing importance of coal as an energy source, the vastness of this resource, and taking into account environmental considerations, what is DOE's rationale in not funding large demonstration projects through the commercialization stage for clean coal?

Answer: It is the Administration's position that the appropriate role for the Federal Government is to encourage the development of a sound technology base for technological innovation through jointly funded basic and applied research and to encourage an overall economic climate in which the private sector users and producers of energy can carry forward major innovations through commercial demonstrations of new technologies. We believe the government should make it technologically possible for commercial development decisions to be made by industry.

Question: On June 1980 an executive order required that the executive branch, under the direction of the Secretary of Energy, convert major federal fuel-fired facilities to coal. In August 1983 this order was revoked. How many facilities were converted up to August 1983? Have any facilities been converted since that revocation date? How many? Where are they located?

Answer: Prior to August 1983, six facilities were converted. Since then one facility has been converted, ten are in the process of being converted and one additional facility is planned for conversion. The following chart provides a listing of the converted facilities.

Replaced or Converted Prior to August 1983	
Little Creek Naval Amphibian Base, Virginia	3 units
Marine Corps Cherry Point Air Station, NC	2 units
Warren AFB, Wyo.	2 units
Camp Lejeune Marine Base, NC	4 units
Fairchild AFB, Washington	3 units
Naval Air Station, Brunswick, Maine	3 units
Completed after August 1983	
Fort Stewart, Georgia	1 unit
In Process December 1984	
Loring AFB, Maine	3 units
Malmstrom AFB, Montana	3 units
Dover AFB, Delaware	1 unit
Griffiss AFB, NY	4 units
Red River Army Depot, Ark.	3 units
Naval Ordnance Station, Indian Head, MD	3 units
Norfolk Naval Shipyard, VA	3 units
Puget Sound Naval Shipyard, Washington	3 units
Marine Corp Development & Education Command, VA	4 units
Norfolk Public Works Center, VA	4 units
Planned	
*KI Sawyer AFB, Mich.	2 units

* Requested an appropriation for 1984. At Congressional direction, military funding of these projects was deferred for evaluation of available third party funding, construction and operation.

SUBCOMMITTEE RECESS

Senator McClure. Thank you very much, Mr. Secretary.

This concludes the subcommittee's scheduled hearings on the fiscal year 1986 budget estimate submitted by the President, with the exception of one hearing that was unavoidably canceled and has yet to be rescheduled.

The subcommittee will stand in recess until such time as we have rescheduled the hearing for the Holocaust Memorial Council and the Minerals Management Service.

Thank you very much.

[Whereupon, at 3:04 p.m., Wednesday, May 22, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, JUNE 4, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2 p.m., in room SD–138, Dirksen Senate Office Building, Hon. James A. McClure (chairman) presiding.

Present: Senator McClure.

DEPARTMENT OF THE INTERIOR

MINERALS MANAGEMENT SERVICE

STATEMENT OF WILLIAM D. BETTENBERG, DIRECTOR

ACCOMPANIED BY:

RICHARD B. KRAHL, DEPUTY ASSOCIATE DIRECTOR FOR OFFSHORE OPERATIONS
PIET deWITT, CHIEF, OFFSHORE ENVIRONMENTAL ASSESSMENT DIVISION
CHRIS C. OYNES, CHIEF, OFFSHORE LEASING MANAGEMENT DIVISION
ROBERT E. BOLDT, ASSOCIATE DIRECTOR FOR ROYALTY MANAGEMENT
THOMAS M. GERNHOFER, ASSISTANT DIRECTOR FOR ADMINISTRATION
GARY L. BENNETHUM, ASSISTANT DIRECTOR FOR PROGRAM REVIEW
THEODORE F. SAUNDERS, BUDGET OFFICER
ANTHONY L. ITTEILAG, DIRECTOR OF BUDGET, DEPARTMENT OF THE INTERIOR

BUDGET REQUEST

Senator McCLURE. Good afternoon. This is the time scheduled to review the fiscal year 1986 budget request for the Minerals Management Service. This hearing was originally scheduled for May 21, but due to business on the Senate floor, the committee was forced to reschedule. I appreciate your cooperation and I apologize for any inconvenience that may have been caused.

The fiscal year 1986 request for Minerals Management Service totals $154,241,000, a $1,484,000 decrease, or 5 percent, below the fiscal year

1985 level. It is also my understanding that there may be a request for some additional funds to lease a new computer.

Also pending before the committee is a fiscal year 1985 supplemental request of $800,000.

PREPARED STATEMENT

Representing the Minerals Management Service this afternoon will be Mr. William Bettenberg. If you will please introduce those who will be with you at the table today, then we will introduce your entire written statement into the record and proceed directly to the questions.

[The statement follows:]

STATEMENT OF WILLIAM D. BETTENBERG

I want to thank the Chairman and members of the Subcommittee for the opportunity to appear here today to discuss the Minerals Management Service (MMS) budget proposal for FY 1986. The Minerals Management Service has responsibility for two major programs: Leasing and management of mineral resources on the Outer Continental Shelf (OCS), and the collection and disbursement of royalties and other mineral revenues from Federal, Indian, and OCS lands leases. Our budget is formulated to conduct programs that encourage environmentally sound exploration and development of the Nation's offshore energy resources which in turn can reduce our dependence on foreign sources of supply and enhance our national security. These programs also provide receipts to the Federal Treasury and assure the protection of human, marine, and coastal resources.

The budget request for FY 1986 represents a continuation of MMS's dedication to reducing expenditures while increasing program effectiveness. The FY 1986 request for the operating programs is $8.3 million less than the FY 1985 appropriation. These reductions are made possible primarily through redirection of program resources and continuing emphasis on management and administrative efficiencies. The FY 1986 request for the Payments to States appropriation is $31.4 million less than the FY 1985 estimate primarily because payments are based on net receipts after deducting the cost of Federal Onshore mineral leasing programs. Since developing the request in January, the Department has approved MMS's recommendation to install a new computer system for the Royalty Management Program. You may recall that in FY 1985 MMS was appropriated $5 million for leasing and converting to a new computer. We are currently discussing our FY 1986 funding needs for the new computer system with the Office of Management and Budget (OMB).

Highlights of the budget proposal include:

- o A reduction in the Payments to States appropriation resulting from the proposal to base payments to States on net receipts as opposed to gross receipts. In FY 1986, Federal onshore mineral leasing receipts are projected to increase by $32.2 million for a total of $1.14 billion. Currently, most States receive 50 percent of Federal onshore mineral leasing revenues without regard to the cost incurred by the Federal Government in administering these Federal onshore mineral leasing programs. In FY 1986 these Federal expenses would be deducted from gross receipts before calculating the States' share of revenues. This proposal would reduce the Federal deficit by approximately $54 million in FY 1986 and by a total of $290 million through FY 1990.

- o A reduction of $4.8 million for the processing costs related to the acquisition of prelease geologic and geophysical (G&G) data for the OCS Leasing Program. Historically, reimbursements for a pro rata share of the costs of processing these data were budgeted in the Resource Evaluation subactivity for selectively acquired G&G data. Beginning in FY 1986 and thereafter, we propose to require that G&G data acquired under permit be furnished to the Government with the Government paying only for: (1) the reasonable cost of reproducing such data; (2) the acquisition and processing costs of G&G data not available under permit to support litigation, Section 8(g) and boundary disputes; and (3) reprocessing costs when such reprocessing is required to meet Government needs. The proposal would treat permittees the same as lessees by requiring the Government to pay only data reproduction costs. Since developing this proposal, however, the Department's Solicitor has concluded that because of language in the permits, even if the proposed appropriation language is adopted, data acquired in FY 1986 from permits incorporating the current statutory language may still require that MMS reimburse permittees for processing costs.

- o A reduction totaling over $2.0 million resulting from initiatives to reduce headquarters and administrative functions and improve position management.

- A reduction of $2.7 million in payroll expenses. This reduction reflects the Administration's proposal to reduce Federal salary levels by 5 percent in FY 1986.
- An increase of $1.4 million for helicopter support. This funding is being made available by continuing and redirecting savings realized in FY 1985 under Section 2901 of the Deficit Reduction Act of 1984. This will provide funds for additional leased helicopters and the conversion of these helicopters to the twin turbine engine model. These aircraft provide for increased efficiency in the use of regulatory program personnel making inspections at greater flight distances further from shore, while maintaining the current level of safety.
- Increased funding of $0.4 million for delegated and cooperative audits providing a total of $1.9 million for such activities.
- Phaseout of the Royalty-In-Kind Program. In light of the continued decline in the number of participants and in order to save significant litigation effort as well as the cost of operating this program, the Administration is proposing to phase out this industry support program in FY 1986. The Government will save $0.3 million and 10 FTE as a result of the FY 1986 phase-down. The program would be completely phased out by the end of FY 1987.

I would now like to discuss in more detail the two primary operating programs under the Minerals and Royalty Management appropriation.

Outer Continental Shelf Lands

The Minerals Management Service has been working closely with State and Congressional delegations to resolve OCS leasing issues amicably. We have implemented several significant changes in our approach to leasing, many of which are aimed at resolving as many conflicts as possible early in the leasing process. For example, we are attempting to resolve conflicts at the Area Identification stage, when the sale proposal is identified, instead of at the Final Notice of Sale stage, which occurs near the end of the 2-year prelease process. This avoids needless controversy during the evaluation and consultation stages of the sale proposal. It also allows more constructive use of the prelease process by focussing attention on a much smaller number of issues remaining unresolved after Area Identification.

We have also modified the Call for Information, which is the initial administrative step in the prelease process that solicits information from industry, States, and other interested parties, to request more specific information than previously. Companies are now being asked to provide more detailed information on areas where potential conflicts exist, and to provide the names of individuals who can be contacted for further information. The comment period has been extended from 30 to 45 days to provide interested parties more time to gather information on potential conflicts. Information received as a result of the Call is employed in conjunction with Interior's data on hydrocarbon potential and environmental concerns to delete areas where further study is not warranted. Increased emphasis is being placed on extensive scoping consultation at the outset of preparing Environmental Impact Statements (EIS's). This is reflected in our decision to institute public scoping meetings. Also, additional public hearings are being held, and the period allowed for review of the draft EIS has been extended to 60 days. Finally, adjustments have been made in a number of sale dates to better accommodate thorough environmental analysis.

We believe that early consultation on Coastal Zone Management (CZM) issues, looking toward the postlease consistency certification requirement of Section 307(c)(3) of the CZM Act, is a wise course of action. Accordingly, at the very early Call for Information step in the OCS planning process, States are now asked to indicate issues of concern regarding coastal resources. These issues are analyzed in the EIS and throughout the prelease process in an attempt to resolve potential future postlease conflicts before the sales.

As you know, the Department has proposed the deletion of OCS leasing restrictions contained in Sections 107, 108, and 111 of the General Provisions of the FY 1985 Interior Appropriations Act. Section 18 of the Outer Continental Shelf Lands Act Amendments of 1978 requires the Secretary of the Interior to prepare a 5-year oil and gas leasing program which provides for, among other things, an equitable sharing of developmental benefits and environmental risks among the various OCS regions. In preparing the program, the Secretary is required to base the timing and location of oil and gas activities among the OCS regions on consideration of environmental, multiple use, and socioeconomic factors, as well as factors relating to the potential for oil and gas resources. Additionally, he must consider suggestions from other Federal agencies and from the Governor of any State which may be affected by the program. The current 5-year program provides for a proper balancing of factors, including an equitable sharing among regions, and was found to be in full compliance with the OCS Lands Act by the U.S. Circuit Court of Appeals for the District of Columbia in July 1983. The recently published draft proposed 5-year OCS leasing schedule reflects the Department's earnest attempt to address the concerns of State and local representatives balanced with the future energy needs of the Nation.

For a specific proposed lease sale, a thorough analysis is required to meet the requirements of the OCS Lands Act, the National Environmental Policy Act, and other statutes. The Governor of any affected State may submit recommendations to the Secretary regarding the size, timing, or location of the lease sale and is invited to do so. Pursuant to Section 19 of the OCS Lands Act the Secretary shall accept the recommendations of the Governor if they provide for a reasonable balance between the national interest and the well-being of the citizens of the affected State. Less formal consultation with State officials now takes place in advance of and throughout the sales process.

Leasing moratoria restrict the careful balancing among the various OCS regions resulting from the analysis performed according to Section 18. They also curtail the extensive planning process mandated by the Act to gather environmental and geologic information, consult with Governors of affected States, and make the important State-National balancing decisions. We believe that it is important that this carefully prescribed process be allowed to operate.

Royalty Management

I would now like to turn to the Royalty Management Program (RMP). As the Committee is aware, the Department of the Interior has been collecting rents, royalties, and bonuses on Federal and Indian mineral leases since the nineteen twenties. In recent years, however, as mineral leasing revenues have grown, the Department has increased the attention given to this process in order to better assure that mineral leasing revenues are properly collected, accounted for, and distributed to the recipients as required by law. MMS has been responsible for performing most of this function since the Service was created in 1982.

It is well known that the Royalty Management Program has experienced some problems in overhauling the archaic accounting and distribution systems which had been in operation for years. We have taken a variety of actions over the past several years and more recently to resolve these problems. Of greatest note, on April 8, 1985, the Department signed a contract to acquire a new mainframe computer and convert the Auditing and Financial System (AFS) software to the new hardware system. An amendment to the FY 1986 budget has been prepared to provide funds to continue implementation of these improvements. That proposal is currently under review at the OMB. We believe that the course of action established through this hardware acquisition and software conversion will place MMS on a much improved management track and significantly upgrade the program's performance.

Even though there continue to be some problems, much has been accomplished in the past few years. I do not want these accomplishments to go unnoticed. Some of the major achievements in the royalty management area since MMS was created include:

- States are now receiving mineral leasing payments every month, rather than every six months, as in the past. They are also being provided, for the first time, with reports which give them information related to those payments.

- An aggressive audit program has been established. Since its inception in October of 1981 through March 31,1985, almost $117 million has been recovered in previously unpaid or underpaid royalties. Also, the program now has a full-time permanent resident audit staff at the accounting centers of 13 of the largest royalty payors, which account for the payment of approximately 75 to 80 percent of Federal and Indian royalties.

- Cooperative audit efforts have been carried out with seven States and two Indian Tribes. As of March 31, 1985, $33.8 million of the total audit recoveries has been obtained as a result of the joint reviews. Regulations dealing with audit standards and requirements for delegated audit authority to States have been published and eight States have been delegated audit authority. In addition, we will shortly enter into a Cooperative Audit effort with the Navajo Tribe.

- A Bonus and Rental Accounting System (BRASS) has been developed and has been operating successfully since its inception over a year ago.

- A Production Accounting and Auditing System (PAAS) has been developed and operated efficiently in the pilot test environment. It has now been expanded to include all offshore operators and coal operators, representing over 75 percent of total royalty production.

The recently established contract with Martin Marietta data systems will begin to address the changes needed in the Department's mineral revenue collection and disbursement functions. This complex program has now been thoroughly reviewed and we have arrived at a plan which should result in significant improvements in all aspects of Royalty Management.

Mr. Chairman, that completes my prepared statement. I will be pleased to answer any questions that you or other members of the Committee may have.

INTRODUCTION OF ASSOCIATES

Mr. BETTENBERG. Mr. Chairman, I have with me today Mr. Richard Krahl, who is our Deputy Associate Director for Operations; Piet deWitt, who is the Chief of our Offshore Environmental Assessment Division; Chris Oynes, Chief of the Offshore Leasing Management Division; Bob Boldt, who is the Associate Director for Royalty Management; Tom Gernhofer, Assistant Director for Administration; Gary Bennethum, on my far right, Assistant Director for Program Review; Ted Saunders, Budget Officer, on my immediate right; and in the first row, Tony Itteilag, the departmental Budget Director.

OCS MORATORIA AND REVENUES

Senator MCCLURE. Thank you very much.

There is no question that the OCS moratorium actions taken by the Congress in fiscal year 1985 had an impact on the revenues expected to be received by the Treasury.

Can you give the committee the originally expected revenues for each of the scheduled sales as compared to the amounts now expected to be received this fiscal year?

Mr. BETTENBERG. Mr. Chairman, at this point we don't anticipate sales in those areas this fiscal year. In 1984 we had anticipated sales in those areas, and I think at one point had anticipated a sale in central and northern California, perhaps in 1985. We had at one point anticipated something moderately more than $800 million for a southern California sale.

With the limited acreage in the 22 or 23 tracts that we were actually able to sell, I believe we brought in about $60 million. So that was getting close to an $800 million shortfall there. Part of that might have been attributed, without a moratorium, to military acreage that might have been taken out of the sale.

With regard to central and northern California, our original estimate was $1.4 billion, and of course that entire area, at least north of Morro Bay, is in moratorium at this point. That sale is effectively still on hold. At this point we have rescheduled it to have a call at the beginning of next year and to potentially hold a sale at the very end of 1987.

That would be about $2 billion or more just in those two areas.

IMPACT OF MORATORIA

Senator MCCLURE. Has there been any reduction in sales activities or lease activities in the Gulf of Mexico as a result of moratoria?

Mr. BETTENBERG. No; we have no moratoria in place in the gulf. So we don't have any problem there. There was undoubtedly some influence from the North Atlantic moratorium on the sale in that area that we ended up canceling last fall because of a lack of bidders.

Senator MCCLURE. But there was a lack of bidders even on the areas that were available.

Mr. BETTENBERG. There was a lack of bidders for the areas available, but the areas available were broken up with moratoria in each of the canyons. So it was difficult to put together a large enough set of tracts to make an interesting bidding unit.

Senator McClure. Is there evidence from the industry that the exclusion of those canyon areas really reduced the bidding interest?

Mr. Bettenberg. We have gotten some indication of that, yes. We do know that, even so, there were companies who were looking for partners to share the risk of leasing. They concluded within the last week before the sale that they apparently didn't have quite enough economic interest in that one to proceed.

Senator McClure. I would be surprised if the exclusion of the canyon areas really changed their bidding activity. They have the same problems and the same prospects with or without those canyon areas.

Mr. Bettenberg. I don't have a map of that area, but the canyons intersect one large segment of what we thought was attractive real estate. They intersect it vertically, with the prospect going east-west. The canyons roughly run north-south every few miles. So there is a whole series of tracts that are out, a few tracts in, more tracts out, more in as you go from east to west. So it tends to break up the acreage. Of course the drilling targets would all be at depths well below the bottoms of the canyons.

Senator McClure. I am a little puzzled. Even if the canyons intersect that area, as indeed they do, the lessees could aggregate tracts, could they not? Is there a provision in your regulations that requires a lease to be totally uninterrupted?

Mr. Bettenberg. No; the lease doesn't need to be uninterrupted. What a company needs, in that area particularly, is quite a number of tracts.

Senator McClure. But you could aggregate them even though you excluded the canyons.

Mr. Bettenberg. The canyons tend to break up individual prospects.

Senator McClure. They break it up, but you can drill on the areas that are contiguous to it. Nobody is going to come in and drill in the canyons, because that's prohibited. So how in the world does a canyon really break up a tract if no drilling activity occurs there? You can see on the map it does that, but as a practical matter it doesn't.

Mr. Bettenberg. As a practical matter, lessees can only lease on portions of prospects.

Senator McClure. The only loser is the U.S. Government and U.S. Treasury. If there is any drainage from under the canyons, we lose. We lose only from the standpoint that you don't get up-front bidding on it. You get the royalty. I don't understand. Maybe there is a reason.

Mr. Bettenberg. Let me give you an illustration. If you need an entire prospect to make a target economically viable and three-quarters of it is in moratorium——

Senator McClure. First of all, the canyons are not three-quarters. They are the smaller fraction, not the larger fraction.

Mr. BETTENBERG. It depends on the individual prospect.

Senator McCLURE. What they are really looking at is how large is the basin and what is the competition with respect to the drainage of that basin; is that correct?

Mr. BETTENBERG. They are looking at individual structures.

Senator McCLURE. Yes; they are looking at the structure and they are looking at the question of drainage of that structure.

Mr. BETTENBERG. Yes.

Senator McCLURE. Of course they would like to be able to drill anywhere on that structure.

Mr. BETTENBERG. Yes.

Senator McCLURE. The only thing that they are really inhibited by as a result of the exclusion of the canyons would be the question of where can they put their drill rig on the structure.

Mr. BETTENBERG. Yes.

Senator McCLURE. They could put the drill rig anywhere on the structure except in the canyon.

Mr. BETTENBERG. That's correct.

Senator McCLURE. And if they catch any oil or gas in that structure, the only question is whether or not the U.S. Government got an acreage bonus with respect to the up-front leasing bid. We'll still get the same amount of money with respect to any production.

Mr. BETTENBERG. You could get a small amount of drainage, I guess, from one tract to another.

Senator McCLURE. But you can cover that entire structure, except the portion which is prohibited by the moratoria, in one lease offering.

Mr. BETTENBERG. That's correct.

FUNDING FOR GEOLOGIC AND GEOPHYSICAL DATA

Senator McCLURE. A decrease of $4,900,000 is proposed for the Resource Evaluation Program. This amount reflects the termination of reimbursements for the processing of geologic and geophysical data. This would decrease the fiscal year 1986 G&G funding level to $2 million.

What is MMS currently paying for and what are you proposing the Government pay for in fiscal year 1986 with the $2 million you are requesting?

Mr. BETTENBERG. The Department is currently paying processing and reproduction costs. We have proposed language in the budget which, if adopted, would eliminate our legal requirement under the OCS Lands Act Amendments of 1978 to pay for the processing portion of those costs. So we would no longer pay for the processing, but we would continue to pay for the reproduction. The $2 million would cover reproduction and some purchase of very old data that is not covered under our current procedures and some other kinds of geologic data. But the main difference is in covering the processing costs.

We potentially have a problem in regard to that. The Solicitor's office apparently has concluded that until we change the wording in the permits we may not be able to carry through on that proposal all the way. So we are examining how we deal with that right now.

Senator McClure. What are the financial impacts, if any, on the industry of acquiring geologic and geophysical data as a condition of a permit issued by MMS in the OCS?

Mr. Bettenberg. At this point, when industry gathers that data, if we acquire it, we pay them both for processing and reproduction costs. We would no longer pay them for the processing costs, so the overall impact on industry would be probably a decline in revenues of around, I think, $5.4 million. Our estimate is that industry collected something close to 300 million dollars' worth of data last year. So that is roughly the size of the industry that we are talking about.

GAO REPORT

Senator McClure. In a recent report GAO expressed concern that MMS was using inadequate geologic and geophysical data to evaluate OCS tracts. GAO didn't make any specific recommendations because MMS is in the process of improving this supporting data.

Would you comment on this report and what actions you are taking?

Mr. Bettenberg. The title of the report was that Interior has made improvements in its use of geological and geophysical data, and I thought the report documented that well. They were sharply critical of the rush with which some tracts were evaluated in 1983 and the failure to use all the data that were available.

In early 1984 we changed procedures to assure that all data available were used, to assure that if the data were considered to be inadequate, additional data would be purchased for those specific tracts that received bids. The General Accounting Office reviewed that procedure and gave their conditional approval; that is to say they gave their approval that we were doing the proper thing in 1984. Their concern was whether we would be in decent shape to do that in the future, and so they expressed a concern in that regard.

We have reviewed that. We think that we are in very good shape. We are doing the exact same thing on the sale that we just held a little over 1 week ago. We have something like 123 tracts that that received bids that require further mapping. We will do that further mapping before we decide whether we will accept or reject the bids. Some of those tracts will probably require some additional data. We will go out and acquire those data so that we are assured that we are doing a thorough job.

GAO indicated in their audit that we had in fact put out new direction to the regions on how they were to proceed with regard to the use of that data and that the direction was being followed. So I think that we are in good shape there, sir.

Senator McClure. Will the reduction or termination of the reimbursements for geologic and geophysical data hurt your access to the data and affect the very thing GAO is commenting about?

Mr. Bettenberg. With the exception of the concern over the Solicitor's memorandum on our legal liability, the answer is no. It may be that we have to phase in that new policy over a period of years. We typically use data that are no more than 4 years old because they are more refined. Under the procedure that we have proposed in the budget we would have access to all data. We would simply be paying less of the cost of it as a condition of the permit. So we would have all of the data available that we currently have. It's just that it would be cheaper to the Government.

NONENERGY MINERALS

Senator McClure. In fiscal year 1983 you began a specific effort directed toward developing a process for leasing strategic and critical minerals and nonenergy minerals. At last year's hearing you indicated that you had been contacted by three different consortia with regard to polymetallic sulfides off Gorda Ridge.

What, if anything, has happened to these inquiries?

Mr. Bettenberg. At this point I would say that there is some mild interest on the part of industry, but only mild. The U.S. Geological Survey and NOAA are conducting additional cruises this summer, but I think it is safe to say at this point no one has turned up anything that we would call ore.

Senator McClure. So last year there was reduced interest rather than increased interest.

Mr. Bettenberg. I would say that the interest there has been reduced. We basically are awaiting the results of this summer's data gathering by the U.S. Geological Survey and NOAA. If they don't turn up anything of interest, I would imagine that we would turn our attention elsewhere.

Senator McClure. Have you had any requests from industry for more information than will be garnered by this summer's activity?

Mr. Bettenberg. I don't directly know the answer to that question, but I would imagine that NOAA and the U.S. Geological Survey will continue to do reconnaissance-type work in that sort of an area. It is just not ripe for leasing if we don't find anything more interesting than has been found so far.

We do have industry interest in other minerals in other places, though.

Senator McClure. What are your plans for the Nonenergy Minerals Leasing Program in fiscal year 1986?

Mr. Bettenberg. As I indicated, we will be making some decisions this fall whether we should be proceeding any further with Gorda Ridge. We have a very active program going on right now with the State of Hawaii over cobalt crusts on sea mounts in the Hawaiian archipelago and around Johnston Island. Those look much more attractive from a commercial standpoint, and we will continue that program with Hawaii.

We also have some commercial interests in carbonate sands from south of the Florida Keys, where there are very high quality sands, and some expressions of interest by a few companies, and particularly the States, with regard to phosphates on the east coast. So we will probably be turning our attention to those.

Senator McClure. Have you summarized the expressions of interest by industry? Or is there anything further that you can tell us?

Mr. Bettenberg. I think that that is basically it. There are still a number of companies that have an interest, but it is not clear that it is commercially viable yet.

TRACT AND PROSPECT SPECIFIC MAPPING

Senator McClure. A comparison of the major products for the tract and prospect specific maps and analyses for fiscal year 1986 indicates that you are anticipating costs of $4,850,000 for the production of maps and analyses for 7 sales completed and 20 sales in progress.

In fiscal year 1985 you anticipated costs of $3,610,000 for 9 sales completed and 24 sales in progress.

Even ignoring the slightly decreased workload, have costs gone up enough to justify a 34-percent increase?

Mr. Bettenberg. I might have to supplement my answer for the record on that one. The maps that we prepare are loosely related to the number of sales that we are undertaking, but only loosely. For instance, we've prepared a number of different types of maps for the various California lease-sale areas, trying to think through the process of what areas are the most viable from a commercial standpoint, and trying to understand which of those are viable from a leasing standpoint.

So I would guess that our production of maps has soared even though the number of sales hasn't as we try to prepare for the different sales and try to understand each one properly.

Senator McClure. Can you supplement that answer for the record, please? We would like a little more detail on that question.

Mr. Bettenberg. I surely will.

[The information follows:]

Number of Maps and Analyses—Supplemental Information

The costs of the Mapping and Related Analyses Program are not solely a function of the number of sales held or in progress in any one year. To a large extent, the costs also depend on the location of the potential sales area and the existence of acceptable geologic and geophysical information. For example, deepwater tracts in the central Gulf of Mexico require considerably more effort since these tracts must be carefully updated or mapped for the first time. Other tracts in shallow water locations generally require updating, but without the same level of effort since they have previously been evaluated.

Additional costs in mapping and analyses are also anticipated in fiscal year 1986 due to increased 8(g) litigation and to support a number of international boundary disputes. Further, updating of existing tract/prospect mapping obviously increases as the number of tracts being considered for lease increases.

TECHNOLOGY ASSESSMENT AND RESEARCH FUNDING

Senator McClure. The Technology Assessment and Research Program operates through contracts with universities, private firms, and Government labs. Examples of accomplishments include the development of improved blowout prevention procedures for deepwater drilling operations and development of a program to obtain technical information to verify structures subjected to ice loadings in the Beaufort Sea.

Comparing the program outputs you estimated in the fiscal year 1985 justification with the 1985 estimates in this year's justification, I note that you have revised your estimates downward. This decrease in estimated activity continues in your estimated outputs for fiscal year 1986.

Will you explain why your output estimates have decreased?

Mr. BETTENBERG. I would think that in that particular case it would be attributed to a substantial slash in funds that we had in 1985 compared to the budgeted amount. I believe in the technology assessment program we had budgeted something in the neighborhood of $1.8 million, and through the combination of the application of the 2-percent reduction, the rescission that was sent to Congress, and so forth, for studies, that that amount was reduced to something in the neighborhood of $1.1 million. So we had a very sizable reduction in that program.

Senator MCCLURE. I notice that you reduced the 1985 estimate from 26 to 11 on investigations and from 12 to 2 in assessments. That is much more than a reduction by one-third, which is the summary of the dollars that you mentioned.

Mr. BETTENBERG. Each assessment is individually budgeted.

Senator MCCLURE. You still have fixed overhead?

Mr. BETTENBERG. None of those funds are used for overhead. That amount of money is purely for contracting for the research. One item can be assessed for $30,000; another one might be $300,000.

It's a very good program that has improved our understanding of means of cleaning up spills in the arctic environment. For instance, where you have a possibility of having a spill in ice floes and a variety of other things.

Senator MCCLURE. Do you feel the information is useful, or is the reduction a reflection of your own estimate of its value? Or is it simply driven by budgetary limitations?

Mr. BETTENBERG. I would say that is driven more by budgetary considerations. We are looking at that in 1987 again as one possible area of increase. It's a very valuable program. It's the Government program for assessing technology actually in operation from OCS leasing. We use it to build our lease sale stipulations, our regulatory approach, and so forth.

ROYALTY-IN-KIND PROGRAM PHASEOUT

Senator MCCLURE. The Royalty-In-Kind Program was instituted to provide a long-term secure supply of crude oil at a reasonable price to small, independent refiners.

You are proposing to phase this program out because present economic conditions reflect a market in which the scarcity of crude oil for small, independent refiners is no longer as critical as it was years ago. You also indicate that the program generates unnecessary litigation.

What is the nature of the litigation and how does it relate to the DOE price controls which expired in January 1981?

Mr. BETTENBERG. Mr. Chairman, we have some 32 refiners currently participating in that program and I guess an average of three lawsuits per refiner. We have 90 separate pieces of litigation or appeals in process right now. Seventy-two of those are pricing cases that relate to FERC decisions under DOE regulations. Of the remainder, we have 11 cases of bankruptcy that we are trying to deal with, and we are involved as third parties in seven more suits where apparently suppliers and refiners are suing one another.

Senator McCLURE. Over the availability or over the pricing of crude?

Mr. BETTENBERG. Probably more over the pricing, I would anticipate.

Senator McCLURE. So nearly all of those are related in one way or another to the financial terms rather than the availability of crude?

Mr. BETTENBERG. That is what I would anticipate, yes.

Senator McCLURE. Could an administrative fee for each barrel of royalty oil sold by the Government be initiated to pay for the cost of the program?

Mr. BETTENBERG. It could, and, in fact, we have implemented that for those agreements that were set to run out before Congress would have a chance to review this proposal. We have extended some of our OCS agreements to, I believe, next January, and we have instituted a fee for those. We anticipate that we will collect something in the neighborhood of $185,000 from those. But it could be financed through a fee.

Senator McCLURE. If Congress mandated that the program continue, is your present practice on those new arrangements a good reflection of the way you would intend to administer it?

Mr. BETTENBERG. Yes.

Senator McCLURE. Assuming that most if not all of these lawsuits are related to pricing which was under regulations and under programs that no longer exist, then is your concern about lawsuits really a reason to abandon the program?

Mr. BETTENBERG. I will assure you that those take up a lot of time. It's a burdensome program to administer from our standpoint.

Senator McCLURE. Do you mean the lawsuits are or the program is burdensome?

Mr. BETTENBERG. The program is, especially because of the lawsuits.

Senator McCLURE. If you take the lawsuits out?

Mr. BETTENBERG. If you take the lawsuits out, I guess it has probably got more nuisance value than anything else; it's not that great a burden.

Senator McCLURE. Let me make a statement to test my own understanding. Pricing regulation is all behind us. There may be a hangover with respect to the lawsuits that are based upon prior policies that no longer exist. When you liquidate those lawsuits, you won't have any more based upon pricing.

Mr. BETTENBERG. That's correct.

INTEREST ON LATE PAYMENTS TO STATES

Senator McClure. You have requested language in the fiscal year 1985 supplemental appropriations bill that would provide funds for payment of interest due the States and Indian accounts whenever mineral leasing revenue payments are not made by the Government within the timeframe established by the Federal Oil and Gas Royalty Management Act of 1982. The language you have proposed would allow these interest amounts to be deducted from onshore Federal mineral leasing receipts prior to transfer to the Federal Treasury. Before making this request, I know you looked into establishing an interest bearing suspense account and using the interest generated to make the necessary payments. This option was eliminated because establishing such an account would require an amendment to the Mineral Lands Leasing Act of 1920.

Can you explain why you rejected this option?

Mr. Bettenberg. Yes; I would have no problem proposing an amendment to the underlying act. The problem is that a suspense account earning interest at Treasury rates would not be adequate. We are required to pay at the IRS penalty rate. So the amount that we would accumulate would be about 2 percent short. The last figures I saw were something in the range of a penalty rate of 11.2 percent, a Treasury rate of 7.2 percent, and so we would always have a shortfall in the account.

Senator McClure. But you would be 7.2 percent closer than you are now.

Mr. Bettenberg. Yes; but what we have proposed would reimburse the States pursuant to the rates established by FOGRMA, and it seemed like the simplest and cleanest vehicle with which to do that.

Senator McClure. If a change could be made to the Mineral Leasing Act of 1920, would that be a better way to do it?

Mr. Bettenberg. Congress can attach this to the Mineral Leasing Act or to an appropriation bill. An appropriation bill seemed to us to be the right vehicle because it does get scrutiny then on a regular basis, and I think we proposed it as an annual and indefinite. If it were in the Mineral Leasing Act it would be a permanent and indefinite, probably. I think it is reasonable for Congress to want to scrutinize how we are doing with regard to these funds. We will always have some that we have to pay, but we are hoping that with the improvements we are making in the royalty management systems that those amounts in the future will be less than they are now.

Senator McClure. Well, I hope so too. There has been a lot of criticism over the delay. It has been suggested by many that the process you are now suggesting removes any real incentive on your part to improve the record of disbursements.

Mr. Bettenberg. I think we have all the incentive we need to improve the record on disbursements. When we contemplated how we should go about this, we did it knowing full well that we couldn't estimate in advance how much we would have to pay. We are doing everything we can to improve on the record of disbursements. Our net amount in suspense at the end of each month has improved every month for most of the past year now. So I think we are making very good progress there. This is an item that we can't estimate in advance how much it will be.

Senator McClure. I am sure you can't estimate it in advance, but there are many who believe that if you had a financial incentive directly related to your own budget you would improve your performance more dramatically. That has been suggested to me a number of times. I assume from your answer you are saying "I don't need that." I suggest the response to that, from the standpoint of other people, is they are not yet convinced you don't need that.

Mr. Bettenberg. I guess I don't know what I can say to assure you.

Senator McClure. We will review it in another year and see which was right.

OCS RESOURCE ESTIMATES

A recent report by the Office of Technology Assessment indicates that the Department of the Interior decreased estimates of recoverable oil by 55 percent and natural gas by 44 percent in the sea from predictions made in 1981. These revisions were made primarily because of unsuccessful drilling in prospective areas.

Why weren't these figures published by MMS if they were known months ago?

Mr. Bettenberg. As I understand it, our report on this has been at the printer for something like 7 weeks and is estimated to come back from the printer around the end of this week. We had provided a copy on request to the Office of Technology Assessment not anticipating that they were going to be publishing it.

Senator McClure. I understand that.

Mr. Bettenberg. So their publishing it kind of caught us by surprise.

The figures, however, were the basis on which we based the 5-year program announcements in March. The prime difference between the figures in the OTA report and the March figures that we released were that we had forecast a couple of years ahead.

If I could say something about the figures themselves. There are really two factors at work, and perhaps three. Our methodology is perhaps somewhat more conservative than that used in 1980–81, the last time these numbers were put together, primarily in that they are more rigorous and can be replicated more easily; new data can be fed in and they can be updated as discoveries are made or prospects are found to not be interesting.

The correct title was not used in the OTA report. These were estimates of undiscovered economically recoverable resources, and our perception of the economics of oil and gas development changed very drastically between 1981 and the current time. So a substantial part of the decline would be attributable to that.

Second, we do have something in the neighborhood of 130 dry wells in the eastern Gulf of Mexico, in the Atlantic, and in Alaskan waters.

At the time that the earlier estimates had been made for Alaska, for instance, I think that there was one COST well that had been drilled north of the Aleutian chain, and we now have quite a number of COST wells and a growing number of exploratory wells that have been put down in that area. The results from those are negative, not only from the standpoint that they were dry, but in what they indicated about more general conditions.

So we are more pessimistic about the opportunity for finding oil and gas there.

However, if prices were to rise sharply, our estimates would go back up some.

Senator McClure. The published figure is a decline of 55 percent and 44 percent in natural gas; are those percentages correct?

Mr. Bettenberg. Those percentages are correct.

Senator McClure. That makes a comparison from an earlier estimate?

Mr. Bettenberg. Yes.

Senator McClure. What was the date of the earlier estimate?

Mr. Bettenberg. The earlier estimate was published in 1981; it was based on data that had been prepared up to the spring of 1980.

A comparison of those earlier numbers with more recent numbers would show that for the central and western Gulf of Mexico actually our numbers are up, and that doesn't count the discoveries made since then, and our estimates, counting discoveries made then, are about even for California. It's Alaska and the Atlantic that we are much more pessimistic about.

MARKET AND PRICE PROJECTIONS

Senator McClure. The estimates made in the spring of 1980 are based upon the estimates of future markets and future market price. Can you tell me what the estimated price was at that time?

Mr. Bettenberg. I will have to give you a discrete figure for the record, but it would have assumed oil at something probably in the range of $33 and climbing rapidly to perhaps $60 to $100 by 1990 or 1995.

Senator McClure. Would you provide an accurate summary of that for the record?

Mr. Bettenberg. I surely will.

[The information follows:]

Basis of 1980 Estimates

As previously stated, the methodology used for the previous assessment was not as rigorous with respect to economic and engineering factors. The OTA report states that estimates were made "* * * under conditions represented by a continuation of price-cost relationships and technological trends that prevailed at the time of the assessment (1980). However, significant changes in price-cost relationships or fundamental changes in technology would affect estimates of recoverable resources." In mid-1980, oil prices were about $35 per barrel with expectations of increases to $90 per barrel by 1990 and about $150 per barrel in 1995.

CURRENT MARKET ESTIMATES

Senator McCLURE. What are your current market estimates, based upon the current report?

Mr. BETTENBERG. Current estimates would have been around $27.50 to $28 and rising at a slower pace, a couple of percent a year.

Senator McCLURE. But still rising.

Mr. BETTENBERG. Still rising slowly.

Senator McCLURE. Rising at lower than the general inflation rate.

Mr. BETTENBERG. Yes.

Senator McCLURE. When I speak of inflation rate, I'm speaking of international markets, not just domestic markets; is that correct?

Mr. BETTENBERG. We would relate that to the U.S. inflation rate.

Senator McCLURE. This report has been at the printers for the last 7 weeks?

Mr. BETTENBERG. Yes.

Senator McCLURE. How long before it went to the printers was the report completed?

Mr. BETTENBERG. A draft was provided to OTA in February. So that long ago. The data in it are current through last summer.

Senator McCLURE. Is there a reason it didn't go to the printers sooner?

Mr. BETTENBERG. Probably just the press of other business. The same people who were doing that were also working on the 5-year program and it was considered the first step in developing estimates for that, and that had a higher priority so far as work is concerned.

Senator McCLURE. Because if I look at it, it sounds like there was something on the order of 4 to 6 weeks delay or more.

Mr. BETTENBERG. Easily, yes. It was probably going through some editorial review, but that would not account for that bulk of time. The main thing would be that the people were working on another project.

FORECASTING METHODS

Senator McCLURE. Were there any analytical changes made in the forecasting methods?

Mr. BETTENBERG. Yes; both methods are attempting to get at the same question. The earlier method was basically a panel of experts. Each expert is presented with the same data and then they make estimates. Then there was a statistical averaging technique applied to their various estimates and they went through several rounds of this.

Senator McCLURE. Would it be fair to say that if in 1981 or again in 1985 you had chosen a different or convened an additional panel you would have also gotten different results?

Mr. BETTENBERG. I would guess so.

Senator McCLURE. The only reason I say that is because so many people are confused by total reserves, proven reserves, recoverable reserves, and they don't understand the reason why figures are different, and it comes down to a matter of expert judgment, does it not?

Mr. BETTENBERG. It certainly does. We have used a more rigorous approach but one that still calls on experts to make judgments about individual prospects. In the end you have to rely on those kinds of judgments.

Addressing your last concern, the question of what do you make of all of this, what you make of it is that those are the best estimates that we can make at this time. You can't know inherently how much oil or gas there is until you drill, and it is important from that standpoint that you continue to lease and continue to explore.

Senator MCCLURE. Every petroleum geologist in the world has his own reputation, some better than others. They all have their pride, all equal. They are paid different amounts based upon different people's judgment of how good their forecasts are. Every oil company has one or more, and they hire independent geologists in the field, and they all come up with different answers.

Mr. BETTENBERG. Yes.

Senator MCCLURE. I bear down on that only just a little so that the record might reflect, if anybody cares to know, that the business of estimating recoverable oil is only that, an estimate; it is an artful science, if I may, because it is part science and part art, isn't it?

Mr. BETTENBERG. Absolutely, especially when you are talking about undiscovered. That's the nature of things that are undiscovered.

Senator MCCLURE. Yet people expect us to make policy on the basis of forecasts as being immutably true. I guess I am not upset with the fact that you have a published report that differs very radically from an earlier report if people would just take the time to look at the reasons why it differs and the pitfalis for policy that flow from those kinds of instruments, from the technology side, the analytical method.

DRILLING IN THE NAVAL PETROLEUM RESERVE IN ALASKA

I remember not long ago a previous administration was going to make the Nation wealthy by doing our own drilling on the naval petroleum reserve in Alaska because those selfish oil companies were getting too wealthy at Prudhoe Bay. How many dry holes did we drill?

Mr. BETTENBERG. I participated in that program, Mr. Chairman. I was budget director at that time, and we set a lot of the policy for it during that period. My recollection is about 29.

Senator MCCLURE. Out of 29?

Mr. BETTENBERG. All of them were dry. It was somewhere around that number.

Senator MCCLURE. I understand, and I didn't mean to embarrass you.

Mr. BETTENBERG. During that period I was harping that the Government should not be doing all that drilling and Congress should not be paying for it.

Senator MCCLURE. Did you just select bad sites so you could prove the wisdom of your argument?

Mr. BETTENBERG. The U.S. Geological Survey and its contractors were selecting sites. I wouldn't be qualified to do that. They were looking for the best prospects.

Senator McClure. They were looking for the best prospects and that is what they and their consultants said were the best prospects?

Mr. Bettenberg. Yes.

ADDITIONAL COMMITTEE QUESTIONS

Senator McClure. I have some further questions that I will submit for the record for response in writing. I appreciate your testimony today and I will look forward to the response to questions. Other members of the subcommittee may also have written questions for submission for response to the record.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

ADDITIONAL COMMITTEE QUESTIONS

OCS LANDS - REGULATORY

Question: An increase of 1 million, 400 thousand dollars is requested for the Regulatory Program in Fiscal Year 1986 to contract for additional helicopter services. This will increase the number of helicopters currently utilized in the Gulf of Mexico from 13 to 15, and from 2 to 3 in the Pacific Region. What increased capabilities will you have with these additional helicopter services?

Answer: The requested increase will provide for the upgrading of selected single engine turbine models to twin engine turbine aircraft. This will provide the MMS with a balanced mix of aircraft types to more effectively accomplish its mission. Twin turbine engine aircraft will bring the inspection program into compliance with Department's regulation which requires that any helicopter operations conducted over water and more than 50 miles from a landing facility be carried out with multi-engine equipment. Recent studies of the incidents of engine failure related ditchings at sea by the U.S. Navy indicate that the use of twin engine equipment does provide a demonstrable decrease in the number of ditchings at sea. Lease sale activities during the past 2 years have permitted offshore oil exploration operations that are increasingly outside the range of timely emergency responses by either aircraft or surface vessels. The MMS and its employees share a deep concern over the effective, timely, and safe conduct of its Offshore Inspection Program. The upgrading of a portion of our currently contracted equipment will allow the MMS to continue its excellent record of providing the service functions.

Question: According to your justification, oil and gas development is expanding very rapidly in the Gulf of Mexico OCS Region. Will these additional helicopters be enough to carry out your regulatory program, or should the Committee be considering more?

Answer: The Minerals Management Service (MMS) feels the current expansion to 18 total helicopters for all regions will be sufficient to carry out our regulatory program. We are currently in the process of documenting and redirecting our inspection program to more effectively utilize our existing resources. This is being accomplished by establishing documented procedures for all regions and districts. These procedures will delineate the region's planning, scheduling and implementation of their respective inspection program. In addition, an internal review process will be implemented at all levels (headquarters and regions) to monitor regional compliance with their inspection program procedures. The MMS has also developed a national Potential Incident of Noncompliance (PINC) list. This list contains items (inspection characteristics) that are to be inspected with unique identifiers common to all regions. In conjunction with the national PINC list, we are developing a nationwide ADP data base (scheduled for completion in mid-1986) to record our inspections by each region, and the characteristics inspected. It is believed that through quantitative analysis of this data, we will be able to more efficiently direct our resources to areas showing a need, thus using our resources more effectively.

STRATEGIC AND CRITICAL MINERALS

Question: Your budget justification indicates that the main focus of the Resource Evaluation Program will be on OCS oil and gas resources. However, you also indicate that a small effort will be directed to studies of strategic and critical mineral resources to determine whether future lease sales of these resources are appropriate. Focusing on the EEZ, will you give me a little more detail on this effort in fiscal year 1986 and how it might change from fiscal year 1985?

Answer: MMS has two projects underway in FY 1985 to consider the economic potential and environmental impacts of ocean mining of nonenergy minerals. Both proposals are being developed or reviewed by joint Federal/State task forces established by the Secretary of the Interior and Governors of Hawaii, California and Oregon with funds provided by the Minerals Management Service. Project activities focus on the cobalt-rich manganese crust off Hawaii and the polymetallic sulfides off the coast of Oregon and Northern California. Resource and environmental studies for both projects will continue into 1986. The EIS for the Hawaiian cobalt-rich manganese crust deposits is expected to be completed in FY 1986.

Question: You indicated last year that even if more funds were provided for the offshore development of strategic and critical minerals, you could not spend it wisely.

Is this still the case in fiscal year 1986?

Answer: Yes, it is. The current projects underway in FY 1985 are progressing very well and the funding requested is sufficient to continue these projects in FY 1986.

OCS LANDS-LEASING

Question: In reviewing your Outputs and Estimated Unit Costs I note that there are large discrepancies between estimated average unit costs in fiscal year 1985 and fiscal year 1986. For example, a Call for Information decreased 35 percent from 40 thousand dollars in fiscal year 1985 to 26 thousand dollars in fiscal year 1986.

The cost of Area Identification, however, increased 52 percent from 25 thousand 400 dollars in fiscal year 1985 to 54 thousand dollars in fiscal year 1986.

Can you describe how these major activities and costs have changed from last year?

Answer: The differences between the FY 1985 and 1986 estimates reflect the differences between two sets of estimates made at different times, in some cases by different people, concerning a pre-lease process which has been undergoing changes and refinements with the implementation of the July 1982 5-year leasing schedule. In some cases, therefore, the change reflects merely a refinement of the estimate. In others, notably the Area Identification step estimate, there are differences in the process itself which have cost implications. Also a financial management system is now in place, which after a little experience, will allow us to more precisely estimate unit costs.

With regard to Area Identification, much more extensive analysis and coordination is now being conducted early in the process than was contemplated when the FY 1985 estimates were developed. When the July 1982 5-year program was approved, it was envisioned that in most cases the area identified for environmental study would be the entire planning area, unless extraordinary conflicts were identified. The prevailing policy was to maintain as much area as possible for study for as long as possible in the process with the view that later some of the conflicts and concerns could be ameliorated. However, the implementation of areawide leasing has evolved and the current policy is to avoid including areas which have little chance of being leased and for which it can be determined early on that the benefits of leasing will be unlikely to outweigh the potential costs of leasing. The aim is to focus attention and analysis as early in the process as possible on areas of high potential so that the full benefits of the planning and consultation process can be brought to bear on the area most likely to be leased. Such a policy requires much greater analysis, information development and consultation early in the process than did the former policy of simply studying whole planning areas and results in higher up front costs.

It is expected that higher up front costs could be offset, at least to some degree, by less costly efforts later in the process due to earlier conflict resolution.

OCS LANDS-RESOURCE EVALUATION

Question: Some of the outputs of the Resource Evaluation Program subactivity must be produced as much as two and a half years prior to a planned offering. This means that for fiscal 1986, outputs are planned to be prepared for potential sales occurring beyond the timeframe of the 5-year leasing schedule. How do you handle this overlap?

Answer: Since some Resource Evaluation Program outputs are produced as much as two and a half years prior to an offering it was necessary, for budget development purposes, to project the following sale schedule, "Oil and Gas Offering Schedule, FY 1985 through FY 1990, For Planning Purposes Only, FY 1986 5-year Plan" using the same assumptions contained in the current schedule. Specifically, it was assumed that sales would be offered in a planning area every third year except for the Central and Western Gulf of Mexico Planning Areas where sales would be held on an annual basis. This internal document was then used to estimate Resource Evaluation Program outputs for the outlying years beyond the timeframe of the July 1982 5-year leasing schedule.

Attachment 1

Oil & Gas Offering Schedule
FY 1985 Through FY 1990
For Planning Purposes Only
FY 1986 Five-Year Plan

Fiscal Year 1986

Alaska (3)	
Norton Basin	October 1985
Navarin	March 1986
Diapir	June 1986
Atlantic (1)	
North Atlantic	February 1986
Gulf of Mexico (3)	
Eastern Gulf	November 1985
Central Gulf	April 1986
Western Gulf	July 1986
California (1)	
Southern California	January 1986

Fiscal Year 1987

Alaska (4)	
Kodiak	October 1986
St. George	December 1986
Barrow Arch	February 1987
Shumagin	June 1987
Atlantic (2)	
South Atlantic	January 1987
Mid Atlantic	July 1987
Gulf of Mexico (2)	
Central Gulf	April 1987
Western Gulf	August 1987
California (1)	
Central/Northern California	September 1987

Fiscal Year 1988

Alaska (4)	
Gulf of Alaska/Cook Inlet	December 1987
North Aleutian Basin	February 1988
Navarin Basin	May 1988
Diapir	July 1988

Atlantic (1)	
North Atlantic	March 1988
Gulf of Mexico (3)	
Eastern Gulf	November 1987
Central Gulf	April 1988
Western Gulf	August 1988
California (1)	
Southern California	January 1988

Fiscal Year 1989

Alaska (3)	
Norton Basin	October 1988
St. George Basin	December 1988
Barrow Arch	February 1989
Atlantic (2)	
South Atlantic	January 1989
Mid Atlantic	August 1989
Gulf of Mexico (2)	
Central Gulf	April 1989
Western Gulf	June 1989
California (1)	
Central/Northern California	September 1989

Fiscal Year 1990

Alaska (3)	
Kodiak	December 1989
Navarin Basin	June 1990
Diapir	September 1990
Atlantic (1)	
North Atlantic	February 1990
Gulf of Mexico (3)	
Eastern Gulf	October 1989
Central Gulf	March 1990
Western Gulf	July 1990
California (1)	
Southern California	January 1990

ROYALTY MANAGEMENT PROGRAM

Question: As a result of implementing regulations for the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA), you anticipate that the workload associated with penalty assessment and litigation support will double in fiscal year 1986.

As a result of that, you have requested increasing the budget for this function from 81 thousand dollars and 1.1 FTE to 401 thousand dollars and 4 FTE's--a 400 percent increase.

Certainly, if the workload is increasing, I can agree that necessary funds should be provided. However, I am not sure why funds should be quadrupled when the workload is only expected to double.

Will you explain why this is necessary?

Answer: Although the caseload is estimated to double in FY 1986, the litigation workload is not determined entirely by the number of cases. In this area, the complexity of the cases becomes an important workload determinant. It is anticipated that industry will attempt to "test" some of the new FOGRMA and product value regulations. The workload associated with these cases will be complex and require significant review and research. In addition, the comparison between resources in the FY 1986 Base Budget and in the FY 1986 Estimate needs further clarification. The resources in the base budget are exclusively for litigation support, while the estimated resources address this function and penalty provision implementation.

MMS PUBLICATIONS

Question: In last year's justification, you indicated that the Office of Minerals Management Information was going to devote a great deal of time developing publication pieces to explain Minerals Management Service. Prior to January 1983, very little had been done in the way of "outreach."

What sort of initiatives have you taken so far? What do you have planned for fiscal year 1986?

Answer: Brochures, pamphlets and other printed materials describing various aspects of the Minerals Management Service for the general public have been drafted and are undergoing internal review. Actual printing (and associated costs) is expected to take place in early FY 1986.

The frequency of press and constituent briefings has increased. These events require extensive planning, coordination, development of the necessary materials for each briefing, and staff time for such activities. We expect to continue such briefings with the media and other constituencies through FY 1986.

Efforts to correct inaccurate media reports, primarily through the use of letters to the editor, have also increased. This approach will be continued in 1986.

We have initiated the production of feature stories and articles for publication in magazines, newspapers, and trade publications to educate the public about various aspects of the OCS leasing program. This effort will continue through FY 1985 and FY 1986.
A speakers bureau is an initiative currently in the formative stage. The objective will be to seek and coordinate requests for MMS and Department of the Interior (DOI) speakers at conferences, meetings, seminars, etc.

A new initiative planned for late in FY 1985 and continuing in FY 1986 is on increased emphasis on outreach to Historically Black Colleges and Universities (HBCU's) and minorities to inform them about the mission of MMS and job opportunities.

For the first time, radio announcements were started in FY 1985. Their use will be continued and expanded in FY 1986. A more comprehensive electronic media plan is in the formative stage with completion anticipated in FY 1985 and implementation in FY 1986.

DEDUCTING COSTS FROM FEDERAL ONSHORE MINERAL RECEIPTS

Question: Again this year you have proposed to deduct the relevant onshore mineral leasing costs of MMS, BLM, and the Forest Service from the Federal onshore mineral leasing receipts before such receipts are distributed between the Treasury and the States.

Why do you feel States should share in the Federal Government's costs?

Is there a reason you feel that States are more agreeable to this proposal this year than they were last year?

Answer: States receive a share of the revenues from Federal mineral leasing activities on acquired and other lands under a variety of laws. However, under current law, the cost of issuing and supervising mineral leases, collecting and accounting for mineral revenues, and otherwise managing and administering the mineral leasing programs are not deducted before calculating the monies to be shared with the States and to be deposited to the reclamation fund.

Although it is anticipated that the States have not changed their opinion with respect to cost recovery, the Administration believes that what should be shared are the gains from public lands activities. Sharing on a gross basis, since it ignores costs, bears no relationship to the actual gain or benefits from the activity.

ROYALTY MANAGEMENT PROGRAM - CHIPPEWA CREE TRIBE

Question: A recent General Accounting Office (GAO) audit indicated that the Minerals Management Service (MMS) owes the Chippewa Cree Tribe of the Rocky Boy's Reservation in Montana $88,431 for interest accrued on royalties collected since 1974 but not paid to the Tribe until 1980 and 1983.

The MMS, along with the Tribe and GAO, apparently are in agreement on this money. The Tribe, however, also feels that they are due $30,000 on interest collected on leases prior to 1974.

Can you describe this situation, and why you feel that the Tribe is not due the $30,000?

Answer: The GAO performed a legal analysis of the pre-1974 revenues and included it in their audit report, "Examination of Funds Received by the Federal Government Under Leases of Mineral Rights on the Bullhook Gas Unit," dated May 3, 1985. The following is based on their report.

Representatives of the Chippewa Cree Tribe believe that the Tribe is entitled to pre-1974 revenues generated by Bureau of Land Management (BLM) leases plus interest. The Tribe asserts that the legislative history of the 1974 Act clearly indicates that the Congress intended it to receive pre-1974 revenues from the BLM leases. The Tribe's claim of entitlement is based on the 1939 Act which added all public domain lands within a described area to the reservation. Therefore, the Tribe contends that because it owned the minerals which BLM leased, BLM's failure to escrow the BLM lease revenues constitutes a breach of Interior's fiduciary duty owed the Tribe.

The GAO's legal analysis disclosed that the available legislative history of the 1974 Act does not indicate that the Congress actually intended to transfer pre-1974 revenues from the BLM leases to the Tribe. In a 1982 opinion, (923.1) M 1402 et al., November 29, 1982, BLM's Field Solicitor noted that the language of the 1974 Act directs the Secretary of the Interior to pay to the Tribe's credit only those pre-1974 royalties that were held in special deposits at the time of enactment. The GAO found that revenues generated by Bureau of Indian Affairs (BIA) leases were the only funds held in special deposits at the time of enactment. Reports for both the House and Senate Committees on Interior and Insular Affairs state that the 1974 Act would require that "...certain funds deposited into a special account which were derived from mineral leases on the original reservation that were consummated by the Tribe with the approval of the Secretary, be paid over to the Tribe." (H. R. Rep. No. 905, 93rd Cong., 2d Sess. 3 (1974); S. Rep. No. 817, 93d Cong., 2d Sess. 2 (1974)).

The GAO report notes that this statement could not describe the BLM leases because the mineral estates leased by BLM were not on the original reservation and were not consummated by the Tribe; they were consummated by BLM. Further, a review of a September 14, 1973, hearing held by the Subcommittee on Indian Affairs of the House Committee and of the Subcommittee's markup session with the full Committee indicates that Committee members ultimately understood that only revenues collected from BIA leases would be transferred by the legislation. In addition, a tribal representative testified before the House Subcommittee that the Tribe had decided, by resolution, not to request the Congress to transfer payments previously made to BLM.

The CAO report further states that the Tribe's contention of ownership of the BLM-leased mineral estates since 1939, which is the basis for its claim for pre-1974 revenues collected from BLM's 1968 gas leases, is now barred by the applicable statute of limitation. Even after evaluating the Tribe's comments on the legal analysis, the report states that GAO remains convinced that the Tribe's claim is time-barred.

OCS LANDS - 8(g)

Question: On April 16 of this year, in an effort to resolve the 8(g) issue, six States proposed that the Federal Government pay the States 37 1/2 percent of bonuses, royalties, and tax income received within the 8(g) zone. Has the Department developed a response to this proposal?

If so, can you discuss it at this time?

If not, can you describe what plans you have to resolve this issue?

Answer: Secretary Hodel responded to the six Governors on May 24, 1985. A copy of the letter that went to each of the Governors follows. The Secretary responded that there were some technical issues that must be resolved so that he and the Governors would know the approximate amounts of revenue involved before they could agree on how to divide the money. He also responded on May 3, 1985, that 37 1/2 percent was a substantially greater share of the revenues than he felt was justified. A copy of the May 3, 1985 letter also follows.

On June 20, 1985, the Administration sent a letter to Congressman Henson Moore which concurred in a proposed compromise level of 27 percent for all coastal States.

May 24, 1985

Honorable Mark White
Governor of Texas
Austin, Texas 78711

Dear Governor White:

Staff of the Department and I have now had a chance to review your letter of April 15, 1985, concerning the kinds and amounts of revenues from 8(g) tracts that you and five other Governors believe should be shared with the States. My recollection is that in our meeting on February 25, we agreed that there were several issues which should be resolved, or at least narrowed, before a final negotiated resolution of 8(g) can be achieved. I recall that we felt that before we can agree to a division of the funds, we have to know the approximate size of the amounts to be divided.

Staff tells me that there was general accord at the December 4, 1984, meeting between State and Federal representatives that an understanding could be reached on unitization agreements, information sharing, boundary issues, section 6 of the draft agreement, surface acreage proration, accounting of revenues, and allocating any distribution at the boundary area between two States. It seems to me that our technical staffs should try to reach agreement promptly on these issues and the amount of the fund resulting from that resolution or provide us with a listing of their differences including an assessment of the financial implications of those differences. As soon as they have done so, we should meet again to negotiate a settlement of any differences and try to agree upon the division of the resulting fund.

It is my belief that ultimately this plan will expedite rather than delay a settlement. In order to further this process, we are enclosing with this letter a list of the technical issues of which we are aware. We are also willing to discuss any other issues you feel may be relevant.

I have asked Acting Assistant Secretary Steven Griles to have departmental staff available to meet with your representatives at their earliest convenience to begin to resolve the technical issues. It is my hope that this process will meet with your approval.

In light of the foregoing, I trust you will understand that I cannot accept the proposal set forth in your April 15 letter. I remain convinced, however, that settlement of this matter through negotiations will be much faster and less costly than litigation. I hope you will agree to this approach, and I look forward to hearing from you.

Sincerely,

Donald Paul Hodel

DONALD PAUL HODEL

Technical Issues Requiring Resolution

Unitization Agreements

We propose that common reservoirs, where possible, be operated under unit agreements. Oil or gas produced from a common reservoir would be allocated to each lessee under the following formula: the State lessee would be allocated a percentage of production equal to the percentage of the reservoir's net acre-feet of hydrocarbon-bearing sand underlying the State lease; the federal lessee would be allocated the rest of the production. The State lessee would pay the State a royalty at the State royalty rate based upon the above allocation formula.

Whenever a unitization agreement is not in effect for a common reservoir, the State would share in Federal royalties based on a royalty-sharing agreement. A team of two individuals would be selected, one who represents the Department of the Interior and one who represents the State, to make a determination of the production from a Federal lease which can reasonably be attributable to the hydrocarbon-bearing sand underlying State submerged lands. If the two individuals could not agree on the allocation of production, an impartial expert, acceptable to both the State and the Department of the Interior, would determine the allocation.

A royalty-offset agreement was also proposed in which the Department would claim a credit against payments due the State under all royalty-sharing agreements for drainage from ununitized reservoirs.

Information Sharing

The Department of the Interior has proposed that the States have access to all geological, geophysical, and reservoir engineering information on blocks within the 8(g) zone, subject to an agreement which is consistent with the provisions of section 26 of the OCS Lands Act requiring confidential treatment of proprietary data. It is also proposed that the Department have access to all geological, geophysical, and reservoir engineering information on the State's submerged lands. The Department would pay the State reasonable reproduction costs, and would keep confidential any priviliged or proprietary information furnished by the State as long as the State kept it confidential.

Boundary Issues

In the case that the seaward boundary of a State is in dispute, we propose to make an 8(g) settlement based upon the Federal boundary claim but retain money in the 8(g) account that would be sufficient to satisfy an 8(g) settlement based upon the State boundary claim.

Section 6 of the Draft Agreement

The Department proposed that the State acknowledge that section 8(g) did not create a trust responsibility or fiduciary duty owed by the Federal government to the State to maximize revenues from 8(g) leases. It was also proposed that the State acknowledge that it is within the sole discretion of the Secretary to exercise the following powers: select the financial terms and conditions under which leases are offered, determine whether to accept or reject bids for leases, determine the value of production for the purpose of computing royalties or profit shares owed, take production in value or in kind, approve or prescribe unitization or production rates, determine the size of lease sales under the procedures set forth in sections 18 and 19 of the OCS Lands Act, and make any other decisions in implementation of the foregoing powers.

Surface Acreage Proration

When a block was partly within the 8(g) zone and partly outside the 8(g) zone, the Department proposed to include in the revenues to be shared, the proportion of the bonus and rental which was the ratio of the acreage within the 8(g) zone to the total acreage of the block.

Accounting of Revenues

An accounting of revenues corresponding to the proposal of August 8, 1984, has been sent to each State. The States of Texas and Louisiana should contact the Department of Justice if they wish to have a similar accounting made available to them. This accounting identified all leases for blocks believed to be at least partly within the 8(g) zone. The Department is willing to review that accounting with each State to determine if there are any discrepancies.

Allocating the Distribution at the Boundary Between two States

Where blocks are within 3 miles of the seaward boundary of more than one State, the Department proposes to divide evenly between the relevant States, the share of the revenues agreed upon to be shared with the States.

MAY 3 1985

Honorable Bill Sheffield
Governor of Alaska
Juneau, Alaska 99811

Dear Governor Sheffield:

I want to thank you for your letter dated April 15, 1985, in which you conveyed jointly with the Governors of five other States a counter-offer concerning the kinds and amounts of revenues from 8(g) tracts that you believe should be shared with the States.

Although your counter-offer asks for a substantially greater share of the revenues than I feel is justified, I continue to believe that further negotiations could lead to a resolution of this matter. I have ordered an internal review of the basis on which the negotiations might proceed and plan to provide you shortly with a suggested format for further negotiations.

Sincerely,

Don Hodel

DONALD PAUL HODEL

ROYALTY MANAGEMENT - "SYSTEM X"

Question: During a recent meeting called by the Minerals Mangement Service (MMS), attendees were advised that a plan was underway to install "System X," but that a cost effectiveness study needed to be made with respect to the implementation of the Product Accounting and Auditing System (PAAS) for onshore leases. Given current fragmentation of duties and responsibilities within the Department of the Interior (DOI) in the production monitoring and revenue accounting areas, what thought has been given as to how and by whom will the integrated review of these functions be carried out?

Answer: The Department recently issued a Management Action Plan for the Royalty Management Program (RMP) which stresses the importance of integration and coordination among the numerous agencies having responsibility for Federal lands. The following are some major initiatives which the Department will undertake:

a. A DOI Lease Management Board will be established, whose membership will include the directors on the Bureau of Land Management (BLM), MMS, Office of Surface Mining (OSM), and the Bureau of Indian Affairs (BIA). The Lease Management Board will be responsible for reviewing and approving all policies affecting Federal lands administered by DOI and which are leased for any purpose.

b. Integration with BLM, BIA, OSM, and MMS's Outer Continental Shelf (OCS) Program, with regard to automation, audit trails, error reduction, and cost efficiencies are all dependent in large measure on the integration of automated data handling efforts among the lease managers. To ensure this coordination, the following initiatives will take place:

   - o BLM and MMS will establish procedures for monthly automated comparison of BLM Automated Land and Minerals Record System (ALMRS) to the Auditing and Financial System (AFS) and Bonus and Rental Accounting Support System (BRASS). Contact persons within BLM and MMS will be established to investigate disrepancies.

   - o A procedure has been established for notifying MMS that drilling has been initiated on a lease. This will provide early notice that transition of a lease from BRASS to AFS is pending.

- The DOI has established the Information Resource Management Review Council (IRMRC) which is chaired by the Under Secretary and comprised of all DOI Assistant Secretaries, the Solicitor, and the Inspector General. IRMRC will act as an oversight body to assure full integration of "System X."

c. Data reporting by industry will be reviewed to eliminate duplication. Clear responsibilities for data receipt and followup between DOI and industry will be established.

Specifically, relating to PAAS, teams from BLM, BIA, MMS, the States, Indians, and industry will be established to perform a study on the usefulness and cost effectiveness of its operations. The study which is to be initiated in late FY 1985 is to be completed in 18 months. That deadline coincides with the earliest date that resources will be available for movement of PAAS to the new computer hardware. At the same time, it allows more experience to be gained with manual production audits so that a better, more complete analysis can be made. At the end of 18 months, decisions will be made on the extension of PAAS reporting requirements to all onshore payors.

TRIBAL ACCOUNTING ISSUES

Question: Once System X is operational, and assuming that PAAS will be operational for onshore leases, will PAAS interface with AFS?

Answer: Yes, this interface is presently occurring and will continue to do so.

Question: If PAAS will interface with AFS, what types of production/revenue comparative and exception reports will be generated?

Answer: AFS and PAAS have been designed to provide a compatible interface which allows comparison of sales data (reported from AFS) with volumetric data reported to PAAS. The data comparison is made at the lease level in the following manner. Volumes reported to PAAS which are not sold are subtracted from the equation e.g., product used on the lease or wasted; the remaining volumes which have been reported to PAAS as sold are compared against sales data reported to the AFS. Differences (exceptions) are identified by computerized screening and are made available for manual review and possible billing for unpaid or underpaid royalties. AFS/PAAS exception processing is run against data which has aged at least 90 days to allow current adjustments reported after the initial reports were filed to be reflected in the data screened through exception processing.

ROYALTY MANAGEMENT PROGRAM

Question: The Anadarko Pilot Project, which is to provide the Department's explanation of payments data at the individual allottee level, was originally scheduled to be operational on March 1. It is now scheduled for June 1. Based upon the current time schedule, when will this pilot be available in other BIA area offices?

Answer: The answer to this question was provided by BIA: "The statement generating capability of the Royalty Distribution

Reporting Systems, known as the Anadarko Pilot, will be available in the Billings Area by September 1, 1985. It will then be evaluated for its potential for successful implementation in Aberdeen, Albuquerque, Anadarko, Minneapolis, Muskogee, Navajo, and Phoenix Areas."

Question: In the past, MMS has refused to audit non-standard lease agreements entered into by energy producing tribes. MMS has also refused to audit agreements in which payment has not been made directly to MMS. Currently, MMS has requested comments from oil and gas well operators concerning a Direct Pay Proposal for Indian allottee royalty payments. Two questions come to mind: (1) What is the basis for the MMS policy decision not to audit and account for non-standard lease agreements? (2) Does the request for comments concerning the Direct Pay Proposal indicate a change in MMS policy with respect to audits of agreements for which royalty payments are not made to MMS?

Answer: MMS policy is to audit any lease, non-standard or otherwise, for which a tribe or individual allottee has requested an audit. On the other hand, MMS can not account for royalty payments which are not made to MMS; and therefore, are not processed through the AFS system.

The basis for this policy is straight forward; MMS will audit any lease on a post payment basis, but cannot account for funds it does not control.

The direct pay study for Indian allottees has no impact on this policy, since if direct pay is expanded to all allottees, the royalty payor will be required to continue to report to MMS. MMS would audit a sample of direct pay allottee leases as part of its ongoing audit process.

ROYALTY MANAGEMENT PROGRAM

Question: How will MMS reconcile sales and payments from information provided by payors with production information when there are always time delays between the time that minerals are "severed" and when the minerals are sold; especially when production is committed to "stockpiles" (inventory) or unsold tank batteries?

Answer: First, MMS policy establishes the place and time of first sale as the point of royalty determination. Hence, the comparison of sales and production data is keyed to when the sale takes place. Second, PAAS is designed to account for all volumes produced from the point of production to the point of sale. All volumes used on the lease in any way are subtracted from the volumes sold so that the sales-volume comparison is consistent. Additionally, the comparison is not made until the data has had sufficient time to "settle down" reflecting adjustments made after first reporting (data is aged at least 90 days prior to comparison occurring).

Question: What factors will be used to determine the value of production vs. sales price when arm's-length transactions of a "free market" are absent in some sales agreements, particularly in coal and uranium sales? And what methodology will MMS employ to assure proper valuation of tribal and allotee mineral production by payor? This can be an extremely important aspect of MMS functions when royalty is determined, by terms of the agreement, by both quality and quantity.

Answer: When a non-arm's-length sales situation exists, MMS will establish a series of benchmarks by which it will arrive at an "established value" for purposes of determining the royalty value of the product. Among the most common benchmarks used are: tying the value to prices established in arm's-length contracts for a product of like quality sold in the same field or area; the median value of the product calculated from an array of prices for the same product in the same field or area, a regulated price level if they exist for the particular product, or if the product (like coal or uranium) involves expensive processing costs to place it in marketable condition, the net price realized after eligible processing costs have been deducted from gross proceeds.

The methods outlined above are applicable to tribal and allotted leases as well as to Federal leases. Again, royalties are determined on volumes at the place and time of sale.

Question: During the "System X" meeting referred to above, attendees were advised that terminal access would be made available to the MMS data base. When will the user committees be formed to determine what data elements a user would be entitled to access? Also in this same regard, when will the PAAS Cost Effectiveness Committee be formed? And, whose benefit will be analyzed; the tribe and allottees, or MMS (DOI) or payor? Given the fact that no enhancements of the AFS are contemplated during the conversion to "System X" what action, if any, will be taken with respect to the problem areas and weaknesses identified in the House Committee on Interior and Insular Affairs Report dated December, 1984, specifically:

- o Inadequate reporting to tribes and allottees
- o Failure to publish product valuation guidelines
- o Lease Level Revenue Report vs. Well Level Production Monitoring and Reporting.

Answer: The MMS has begun the preliminary effort to make its data available to States and tribes. On June 5, 1985, State and tribal representatives were given a presentation on the State and Tribal Automated Assistance System providing time schedules and plans for obtaining their input into this system's design. In August, MMS will meet with State and tribal representatives to discuss their data needs. It is anticipated that access to AFS data will be available in May 1986.

The PAAS study team is being formed and an outline of the study plan is being developed. A briefing on the plan will be given to the Secretarial Advisory Committee in September 1985. This study will be performed by personnel from within DOI, industry, States and Indian tribes. The benefit and burden for all users and participants will be analyzed.

While the AFS reimplementation is occurring, MMS will continue to provide what reports and data it can make available to the tribes and allottees. We will also continue to perform audits of Indian leases on a sample basis and as requested. As previously mentioned, we are working with States and Indian tribal representatives to identify their data needs and make those available as quickly as possible on the new computer.

The Department's Management Action Plan states that: "Clear standards or regulations are needed in order to consistently, reliably, and fairly establish the proper product valuation for royalty determination. New product valuation regulations which will provide sufficient clarity and detail will be written for coal, oil, gas, and for processing and transportation allowances--five sets of regulations in all.

a. One of the panels appointed by the Royalty Management Advisory Committee will review and participate in determining proper regulations for product valuation. Membership of that panel should include representatives from the States, Indian tribes, industry, and the Department of the Treasury. Final regulations will be issued in accordance with normal Administrative Procedures Act (APA) processes. The target date for issuing all of the final regulations is December 1985.

b. The new proposed regulations may, in accordance with APA, in some instances need to be issued as interim final and will then be operated under pending complete review. In such instances, the final may apply retroactively to better protect the public interest."

The PAAS Well Information Form requires reporting data on a well level basis. However, this information can then be rolled up to a lease level. It can then be compared to an AFS roll-up of revenue information provided on a lease level basis generated by AFS.

Question: When solid mineral production from a number of leases is undertaken according to a specific arrangement, i.e., equalization, how will MMS (or when will MMS) be able to determine the accurate amount of royalty attributed to each lease?

What financial assistance is currently available within DOI to provide tribal accounting staff with training to improve its auditing and revenue accounting review capabilities?

Answer: Lessees or operators are required to report sales and volumes on a lease basis regardless of the unit or equalization arrangement which has been established on a multi-lease basis. The method for determining lease level volumes and sales data when production is involved in multi-lease arrangements is through a lease assignment allocation system based on periodic measurements quantifiable to each lease. These measurements are performed through production verification techniques or meters, scales, or other measuring devices calibrated on a regular basis.

MMS does not have financial assistance available to provide tribes with training in mineral accounting practices. However, one tribe, the Navajos, are participating in a fully funded Intergovernmental Personnel Act program by which States and tribes provide staff to learn the MMS accounting systems through 1 year assignments to the Lakewood Accounting Center. The costs of the program are fully borne by MMS.

Question: Because the administrative problems referred to above in I through III will not be timely addressed to: (1) Conversion efforts to "System X" and (2) the MMS policy that MMS allottee accounting responsibility ends at lease level reporting, rather than at the individual owner level, then serious consideration should be given at the DOI Secretarial level for providing financial resources and technical training to move away from existing inadequate centralized accounting and reporting systems to decentralized integrated production monitoring and revenue reporting systems. Such a shift would be in line with current information processing and reporting trends and data processing capabilities within the private sector, emphasis is being placed upon distributive processing at the user level. What will be the DOI policy position toward tribal requests for financial assistance for the express purpose of assuming a greater role in production monitoring and revenue accounting.

Answer: MMS accounting systems are established on a payor level basis. Payors are required to report monthly on their paying responsibilities on all leases. The MMS system has the ability to "role up" data to the lease level to reflect data provided by all payors on a given lease. With the advent of the new MMS computer system, the ability to do lease level rollups will be greatly enhanced. Discussions with State and tribal leaders clearly indicate a desire for royalty information on a lease level basis, both for accounting as well as auditing purposes. Allottee accounting (the percentage of allottment to a particular lease for each allottee) is maintained by BIA. As recommended in the recently issued Royalty Management Action Plan, MMS is embarking on a program of providing States and tribes access to MMS data systems for the data affecting that State or tribe. The State or tribe will be able to reformat the data, process it, and review stored data for past periods. This process, which can be provided relatively inexpensively, would relieve the need for any type of distributive processing, although the ability to download data to satellite computers for exception processing and other accounting and auditing functions is also being explored. The concept of establishing separate distributive accounting systems with individual tribal and State support for those systems would be tremendously expensive when compared to the data sharing system described above.

MMS is committed to increased data sharing with States and tribes and is exploring the possibility of providing equipment and training to enhance the States and tribes ability to make full use of the multi-faceted data which is available to them in the MMS computerized system.

OCS LANDS - STATE CONSULTATION

Question: There has been some criticism recently that MMS hasn't been consulting enough with States and outside groups on individual sales.

Please provide for the record an analysis and documentation of any consultation you have had on individual sales.

Answer: The Department of the Interior is proud of its record of consultation with affected States, outside groups, and the

Department of Defense. This extensive consultation is documented in the following consultation record for the time period from January 1, 1984, through February 28, 1985.

Sale 80, Southern California

Chronology of Prelease Consultation with the State of California, Congress, and the U.S. Department of Defense

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register 24 May 1982.

-- Call for Information published in the Federal Register on 23 November 1982.

24 November 1982, Letter to Governor of California transmitting the Call for Information and identifying blocks subject to section 8(g) of the Outer Continental Shelf Lands Act (OCSLA).

10 December 1982, Letter to Ms. Deni Greene (Director, California Office of Planning and Research) requesting the State's response to the Call for Information for Sale 80 be submitted according to schedule.

19 March 1983, A Fact Sheet/Scoping Request was also prepared and sent to Call respondees, local governments and jurisdictions requesting additional issue identification.

22 March 1983, Letter to Governor of California listing all blocks in Sale 80, those blocks within 3 miles of State waters, and those section 8(g) blocks where geologic structures common to adjacent State submerged lands may exist.

25 March 1983, Minerals Management Service (MMS) participated in a meeting in San Diego at which State and local government agencies, and the public discussed issues relevant to Sale 80.

13 April 1983, Letter to Col. George Tissaw, U.S. Air Force (USAF), requesting comments on potential multiple-use conflicts in the Sale 80 area.

11 May 1983, Letter to Gordon Duffy, State of California Secretary of Environmental Affairs (SEA), requesting assistance of the State Historic Preservation Officer in identifying significant cultural resources in the Sale 80 area.

-- Notice of Availability of draft EIS for Sale 80 published in the Federal Register on 24 June 1983.

11 July 1983, Letter to Dr. Knox Mellon (California State Historic Preservation Officer) requesting his consultation on possible cultural resources located in the Sale 80 area.

19-20 July 1983, Meetings between MMS and the U.S. Navy on Sale 80 concerns.

26 July 1983, Public hearings on the Sale 80 draft EIS held in San Diego, Long Beach, and San Buenaventura, California.

28-29 July 1983,	Phone calls to Paul Foster (U.S. Navy, Pacific Missile Test Center (PMTC), Point Mugu) discussing possible conflicts between military and oil and gas activities in the Sale 80 area.
3 August 1983,	Meeting with several representatives of the U.S. Department of Defense (DOD) concerning potential multiple-use conflicts in the Sale 80 area.
12 August 1983,	Phone call to Paul Foster discussing the PMTC's position on Sale 80.
16 August 1983,	Letter to Ms. Claire Dedrick (Executive Director, California State Lands Commission (SLC)) requesting State concurrence with salient points on supplemental official OCS block diagrams.
24 August 1983,	Phone call to Bud Abbott (Western Space and Missile Center, Vandenburg Air Force Base (AFB)) clarifying information received.
25 August 1983,	Phone call to Paul Foster (PMTC) discussing hydrophone arrays south of Santa Cruz Island.
26 August 1983,	Letter to Director of Safety, Vandenburg AFB, requesting clarification and documentation of USAF (Vandenburg AFB) concerns on the draft EIS.
4 October 1983,	Letter to Gordon Duffy (SEA) responding to a comment letter concerning California's position on leasing off San Diego.
14 December 1983,	Letter to James Driscoll (Chief Clerk, California State Legislative Assembly) explaining relationship of offshore leasing to the Santa Barbara Ecological Preserve and Buffer Zone and the Channel Islands National Marine Sanctuary.

-- Final EIS for Sale 80 Notice of Availability published in the Federal Register on 2 December 1983.

-- Sale 80 was "put on hold" to review all issues related to the sale and to provide an opportunity to negotiate joint military-industry use areas. During this time comments were again solicited from the State of California.

11 January 1984,	Meeting of Director MMS and Assistant Secretary - Land and Minerals Management (A/S-LM) with Gordon Duffy (SEA).
15-19 January 1984,	Meeting between MMS staff and representatives of the California Air Resources Board (CARB) to discuss air quality issues.
19 January 1984,	Meeting of Director MMS and MMS Pacific Regional Director with Michael Fischer, Executive Director, California Coastal Commission (CCC).
24-25 January 1984,	Meeting of MMS Pacific Regional Director with Gordon Duffy and SEA staff on Sale 80 air quality issues.
30 January - 2 February 1984,	Meeting between MMS staff and representatives CARB to discuss air quality issues.
1 February 1984,	Meeting of Director MMS and A/S-LM with Gordon Duffy (SEA).

16 February 1984,	Meeting of MMS Pacific Regional Director with Gordon Duffy and SEA staff concerning leasing offshore California and Sale 80.
22 February 1984,	Meeting of Director MMS with Claire Dedrick (SLC) and California Black and Hispanic representatives.
23 February 1984,	Meeting of Director MMS and A/S-LM with Gordon Duffy (SEA).
27 February - 1 March 1984,	Meeting between MMS staff and representatives of CARB to discuss air quality issues.
28 February 1984,	Regional Technical Working Group Meeting. Discussion of Sale 80 issues with Jananne Sharpless, Deputy, SEA.
13-16 March 1984,	Meeting between MMS staff and representatives of the CARB to discuss air quality issues.
16 March 1984,	Meeting of Director MMS with Jim Borroughs of Senator Wilson's staff to discuss leasing offshore California, particularly Sale 80.
21 March 1984,	Meeting of Director MMS and A/S-LM with Representatives Leon Panetta, Mel Levine and Bill Lowery to discuss their concerns with leasing offshore California, particularly with Sale 80.
28 March 1984,	Letter to Caspar Weinberger, Secretary of DOD, transmitting the Department of the Interior's (DOI) counterproposal to DOD's request to delete several blocks from Sale 80.
29-30 March 1984,	Meetings between the Director MMS and A/S-LM with representatives of California's State and local governments to discuss their concerns about Sale 80.
1 April 1984,	Meeting between the Director MMS and State and local California groups in Santa Barbara.
2-5 April 1984,	Meeting between MMS staff and representatives of CARB to discuss air quality issues.
11 April 1984,	Meeting of Director MMS with Representative Bosco to discuss OCS leasing offshore California.
11 April 1984,	Tour of offshore areas, Santa Barbara Channel and Santa Maria Basin, by MMS Pacific Regional Director and representatives of the California Department of Conservation.
2-5 May 1984,	Meeting between MMS staff and representatives of CARB to discuss air quality issues.
17 May 1984,	Telephone discussion between MMS Pacific Regional Director and Jananne Sharpless (Deputy, SEA).
21-22 May 1984,	Meeting between MMS staff and representatives of CARB to discuss air quality issues.
22-24 May 1984,	Meetings of Director MMS with Representatives Robert Lagomarsino, Duncan Hunter, Jim Bates, Ron Packard, Robert Badham, Bill Dannemeyer, Bill Lowery, Mel Levine, Leon Panetta and Senator Pete Wilson to discuss the status of Sale 80 and to review any potential problems.

23 May 1984, Meeting of MMS Pacific Regional Director with Gordon Duffy and SEA Staff on OCS issues, including Sale 80.

-- Proposed Notice of Sale published in the Federal Register on 31 May 1984.

24 May 1984, Letter to the Governor of California transmitting the proposed Notice of Sale and requesting his comments on the size, timing, or location of the Sale pursuant to section 19 of the OCSLA.

24 May 1984, Letter to Gordon Duffy (SEA) transmitting the proposed Notice of Sale.

25 May 1984, Open briefing by Director MMS on the Hill for a status of Sale 80 and Sale 91.

30 May 1984, Meeting of Under Secretary of Interior and Director, MMS with representatives from the San Diego Board of Supervisors.

4-5 June 1984, Meeting between MMS staff and representatives of CARB to discuss air quality issues.

13 June 1984, Meeting of MMS Pacific Regional Director and the Secretary's Regional Assistant concerning OCS issues and Sale 80.

15 June 1984, Letter to Gordon Duffy (SEA) explaining how the new procedures for early incorporation of State concerns in prelease planning had been applied to Sale 80.

16 June 1984, Letter to Gordon Duffy (SEA) notifying him that the MMS Pacific Regional Director would be in contact with Mr. Duffy's staff to arrange a meeting on Sale 80.

19-22 June 1984, OCS Policy Committee meeting, Portland, Oregon: informal meetings of MMS Director and MMS Pacific Regional Director with Gordon Duffy (SEA).

24-29 June 1984, Meeting between MMS Director and representatives of CARB to discuss air quality issues.

6 July 1984, Call by Secretary Clark to Governor Deukmejian.

12 July 1984, Meeting of MMS Regional Director with Gordon Duffy and Jananne Sharpless (SEA) to discuss mitigating measures for Sale 80.

15-17 July 1984, Meeting between MMS Director and representatives of CARB to discuss air quality issues.

3 August 1984, Letter to Bud Abbot (Vandenburg AFB) listing the blocks affected by the evacuation portion of proposed Stipulation No 3.

6-10 August 1984, Meeting between MMS Director and representatives of CARB to discuss air quality issues.

13 August 1984, Letter to Gordon Duffy (SEA) detailing the actions taken by DOI to modify Sale 80 as requested by the State of California. (Prior to this, many telephone conversations took place between the Secretary of Interior and Governor Deukmejian and the Director, MMS and Mr. Duffy.)

24 August 1984,	Meeting with CCC staff about Sale 80 concerns.

-- Final Notice of Sale published in the Federal Register on 17 September 1984

12 September 1984,	Letter to the Governor of California transmitting the final Notice of Sale and DOI acknowledgement and agreement to requests by the State to delete blocks and modify stipulations.
13 September 1984,	Meeting of Director MMS and MMS offshore staff with Representatives Leon Panetta, Mel Levine and Bill Lowery to discuss the final Notice of Sale for Sale 80.
	Briefing by Director MMS for Hill staff of California Congressional delegation and Appropriations Committee staff on the final terms and conditions for Sale 80.
Mid-September 1984,	Phone call from Secretary Clark to the Governor of California informing him of the air quality protection measures adopted for the Sale.
18 September 1984,	Letter to Gordon Duffy (SEA) explaining to him the technical basis for the air quality decisions reached for Sale 80.
28 September 1984,	Letter to Michael Fischer (CCC) transmitting the final Notice of Sale and thanking him for the helpful discussions during the 24 August 1984 meeting.
3-5 October 1984,	Meeting between MMS Director and representatives of CARB to discuss air quality issues.
10 October 1984,	Letter to Gordon Duffy (SEA) discussing the program undertaken by MMS to address California's air quality concerns.
12 October 1984,	Director MMS testified before the House Government Operations Subcommittee on Environment Energy and Natural Resources, (Chaired by Representative Levine) in Santa Monica, California, on OCS issues, including Sale 80.
17 October 1984,	Lease Sale 80 held in California

Sale 82, North Atlantic

Chronology of Consultation with States and Congress

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register November 8, 1982.

-- Call for Information published in the Federal Register on November 23, 1982.

30 November 1982,	Regional Technical Working Group (RTWG) meeting held in Boston, Massachusetts.
10 March 1983,	RTWG meeting held in Hyannis, Massachusetts.
10 May 1983,	Environmental Studies Working Session (ESWS) to obtain the North Atlantic RTWG's recommendations on the Fiscal Year 1985 Regional Studies Plan.

-- Notice of Availability of draft EIS for Sale 82 published in the Federal Register on June 22, 1983.

14 July 1984,	RTWG meeting held in Portland, Maine, to discuss draft EIS for Sale 82.
29 July 1983,	Public hearing concerning the Sale 82 draft EIS held in New York City, New York.

-- Notice of Availability of final EIS for Sale 82 published in the Federal Register on November 22, 1983.

1 December 1983,	RTWG meeting held in Mystic, Connecticut, to discuss the final EIS for Sale 82.
31 December 1983,	Sale 82 was put "on hold" by Secretary Clark as part of his ongoing review of Outer Continental Shelf (OCS) oil and gas lease sales, in part to allow further comments to be solicited from the affected States.
11-13 January 1984,	OCS Policy Committee meeting held in Washington, D.C. At this time, Sale 82 concerns were discussed with representatives of the North Atlantic States.
16 February 1984,	Minerals Management Service (MMS) Director met with representatives of a number of the concerned States to discuss Sale 82.
3 April 1984,	Letters to the Governors of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, and New Jersey to bring them up to date on Interior's review of Sale 82 and to transmit a map showing the current level of industry interest in the Sale 82 area.
9 April 1984,	Director, MMS, and Deputy Associate Director for Offshore Leasing (DADOL) met with representatives of several of the concerned States to discuss Sale 82.
27 April 1984,	Director, MMS, met with representatives of several of the concerned States to discuss MMS's recommendations on Sale 82.

-- Proposed Notice of Sale published in the Federal Register on May 14, 1984.

3 May 1984,	Meeting of Director, MMS, with Representative Gerry Studds to discuss Sale 82.
7 May 1984,	Meeting of Director, MMS, with Representative Silvio Conte to discuss Sale 82.
8 May 1894,	Meeting of Director, MMS, with Representative William Ratchford to discuss Sale 82.
8 May 1894,	Meeting of MMS staff with Hill staff from the offices of Senators Ted Kennedy, Paul Tsongas, and Lowell Weicker and Representatives Edward Markey and Joseph Early to discuss Sale 82.
8 May 1984,	Letters to the Governors of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, and New Jersey transmitting a copy of the proposed Notice of Sale and requesting comments on the size, timing, and location of Sale 82 pursuant to section 19 of the OCS Lands Act.

9 May 1984,	Letters to the OCS Policy Committee members from the seven concerned States transmitting a copy of the proposed Notice of Sale and the May 8 letter to the Governors.
9 May 1984,	Briefing by Director, MMS, for staff of the North Atlantic Congressional delegation to discuss proposed Notice of Sale for Sale 82.
10 May 1984,	ESWS to obtain the North Atlantic RTWG's recommendations on the Fiscal Year 1986 Regional Studies Plan.
17 May 1894,	Meeting of Director, MMS, with Representative McKernan to discuss Sale 82.
5 June 1984,	RTWG meeting held in Providence, Rhode Island, to discuss Sale 82.
19-22 June 1984,	OCS Policy Committee meeting held in Portland, Oregon, where the Director, MMS, met informally with North Atlantic representatives to discuss Sale 82 concerns.
27 July 1984,	Deputy Assistant Secretary--Land and Minerals Management testified before the House Interior and Insular Affairs Subcommittee on Oversight and Investigation in Gloucester, Massachusetts, on Sale 82.
31 July 1984,	Meeting between the Director, MMS; DADOL; and the OCS representative from the State of Maine to try to resolve Maine's concerns about Sale 82.
7 August 1984,	Meeting between the Director, MMS; DADOL; and the OCS Policy Committee members from Rhode Island and Massachusetts.
8 August 1984,	Meeting between the DADOL and the OCS Policy Committee member from New Jersey.

-- Final Notice of Sale for Sale 82, Part I, published in the Federal Register on August 27, 1984.

22 August 1984,	Letters to the Governors of the seven affected States explaining the balance struck between State and national interests and responding to the Governors' size, timing, and location recommendations pursuant to section 19 of the OCS Lands Act.
23 August 1984,	Under Secretary of the Interior called several New England States, including Massachusetts, to discuss Sale 82 concerns.
23 August 1984,	Letters to the OCS Policy Committee members of the seven concerned States transmitting a copy of the final Notice of Sale and the August 22 letter to the Governors.
23 August 1984,	Meetings by Director, MMS, with Hill staff from the offices of Representatives Conte, McKernan, Studds, Boland, and O'Neill and Senator Kennedy to discuss the final Notice of Sale for Sale 82.

Sale 79, Eastern Gulf of Mexico

Chronology of Prelease Consultation with States and the U.S. Department of Defense

-- Extensive consultation prior to issuance of the Call for Information

10 July 1980,	Letter to the Governor of Florida from the Secretary of the Interior discussing studies for the area south of 26°N. latitude.
24 July 1980,	Letter to Walter Kolb (State of Florida, Governor's Office) from Gulf of Mexico OCS Regional Manager further detailing studies planned for the area south of 26°N. latitude.
13 November 1980,	Letter to Governors of Florida and Alabama announcing initial planning efforts for Sale 79.
31 December 1980,	Letter to the Governor of Florida from Assistant Director White, Bureau of Land Management (BLM), announcing the Call for Nominations.
7 April 1981,	Regional Technical Working Group (RTWG) meeting held in New Orleans.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register 8 June 1981.

7 July 1981,	Letters sent to the Governors of Florida and Alabama as well as 12 other government agencies and offices requesting resource reports for Sale 79.

-- Call for Information published in the Federal Register 13 July 1981.

19 July 1981,	Letters sent to the Governors of Florida and Alabama providing section 8(g) information for Sale 79.
28 October 1981,	Meeting between the Department of Defense (DOD) and the Department of the Interior (DOI) to discuss potential multiple-use conflicts in military Warning Areas W-477, 151, 168, and five Eglin Water test areas.
9-20 November 1981,	RTWG meeting held in New Orleans, including Sale 79 EIS scoping.
13-14 May 1982,	RTWG meeting held in Mobile, Alabama.
12 August 1982,	Meeting between DOD and DOI to discuss multiple-use concerns in the Eastern Gulf of Mexico.

-- Draft EIS for Sales 72, 74, and 79 released on 19 August 1982.

24-26 August 1982,	RTWG meeting in New Orleans.
6-8 October 1982,	Public hearings on the draft EIS were held in Houston, Texas; Mobile, Alabama; Tampa, Florida; and New Orleans, Louisiana.
23 November 1982,	Meeting between DOD and DOI to discuss resolution of multiple-use conflicts for Sale 79.

17 December 1982, Working group meeting with DOI, Air Force (USAF), and Navy to discuss areas of interest to industry where DOD believed they should have exclusive use.

27 January 1983, Meeting with Murice Rinkel (State of Florida, OCS Advisory Board Member) and other State of Florida representatives to discuss Sale 79 concerns.

27 January 1983, Meeting between Minerals Management Service (MMS) staff and two members of the Florida Coastal Zone Management (CZM) program to discuss Florida's CZM program in preparation for developing consistency determinations for South Atlantic and Eastern Gulf OCS lease sales.

-- Final EIS for Sales 72, 74, and 79 notice of availability published in the Federal Register on 4 January 1983.

8-20 January 1983, RTWG meeting on the final EIS.

2 February 1983, Meeting between the MMS Chief of Studies and Murice Rinkel to discuss postlease monitoring studies for the Eastern Gulf of Mexico.

4 February 1983, Meeting between DOD and DOI concerning resolution of multiple-use conflicts within the military warning areas in the proposed Sale 79 area.

3 March 1983, Phone conversation with Florida CZM staff regarding information on Florida's CZM program.

12 April 1983, Federal Register Notice of a proposed stipulation for the Eastern Gulf of Mexico to reduce potential conflicts between military and oil and gas uses of the area.

-- Proposed Notice of Sale for Sale 79 published in the Federal Register on 23 June 1983.

14 June 1983, Letter to Victoria Tschinkel (Florida Department of Environmental Regulation) transmitting a determination of the consistency of Sale 79 with the Florida Coastal Management Program, pursuant to a 9th circuit court of appeals decision on the applicability of section 307(c)(1) of the CZM Act to OCS lease sales.

16 June 1983, Letter to USAF transmitting the proposed Notice of Sale.

16 June 1983, Letter to OCS Policy Committee members from Florida and Alabama transmitting the proposed Notice of Sale.

17 June 1983, Letters to the Governors of Florida and Alabama concerning section 8(g) information for Sale 79.

20 June 1983, Letter from Director, MMS to Governor of Florida proposing a section 8(g) offer.

20 June 1983, Letter to Governors of Florida and Alabama transmitting the proposed Notice of Sale and requesting comments pursuant to section 19 of the OCS Lands Act.

6 July 1983,	Meeting between DOI and the State of Florida representatives to discuss DOI's willingness to negotiate on the sale. Florida officials indicated they wanted to await the outcome of the Congressional actions affecting the sale.
12 July 1983,	Phone call from the Secretary of Interior to the Governor of Florida regarding negotiations for Sale 79 and Interior's willingness to negotiate.
12 July 1983,	Followup letter from DOI to Governor of Florida indicating the actions DOI was willing to take to accommodate the State's concerns.
20 July 1983,	A Memorandum of Understanding was signed between DOD and DOI governing military-industry multiple-use stipulations to be implemented for the sale.
6-14 September 1983,	Several phone conversations were held between headquarters MMS and State of Florida officials concerning CZM issues.
20 September 1983, (about)	MMS Director and the Assistant Secretary for Lands and Minerals Management called Murice Rinkel to indicate DOI's willingness to negotiate; the State declined.
24 October 1983,	Meeting between MMS and the State of Florida staff concerning DOI's intention to publish a final Notice of Sale for Sale 79 with the Fiscal Year 1984 Appropriations conference language.
15-17 November 1983,	RTWG meeting held in New Orleans.

-- Final Notice of Sale published in the Federal Register on 6 December 1983.

8 December 1983,	Letters to the OCS Policy Committee members from Florida and Alabama transmitting the final Notice of Sale.
30 December 1983,	Letter to the Governor of Florida explaining the balance struck between State and national interests and responding to the Governor's size, timing, and location recommendations pursuant to section 19 of the OCS Lands Act.
5 January 1984,	Lease Sale 79 held in New Orleans, Louisiana.

Sale 84, Western Gulf of Mexico

Chronology of Prelease Consultation with States and the U.S. Department of Defense

-- Extensive consultation prior to isuance of the Call for Information.

11 August 1982,	Letter to the Governor of Texas announcing initial planning efforts for Sale 84.
12 August 1982,	Letters sent to five Governors and 44 government offices and agencies requesting resource reports for Sales 81 and 84.
24-26 August 1982,	Regional Technical Working Group (RTWG) meeting in New Orleans, at which the five States' OCS representatives discussed future plans for Sale 84.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register, 7 May, 1982.

-- Call for Information published in the Federal Register on 28 September 1982.

5 November 1982, Letter sent to the Governor of Texas concerning section 8(g) information for Sale 84.

18-20 January 1983, RTWG meeting held in Biloxi, Mississippi, at which the five States' OCS representatives discussed future plans for Sale 84.

24 January 1983, Letter to U.S. Air Force, Navy, and NASA requesting comments on Sales 81 and 84.

-- Draft EIS for Sales 81 and 84 released on 6 July 1983.

15 August 1983, Public hearing for the draft EIS held in New Orleans.

14 September 1983, Letter to DOD requesting comments on Sale 84.

15-17 November 1983, RTWG meeting in New Orleans discussing the draft EIS.

-- Final EIS for Sales 81 and 84 notice of availability published in the Federal Register on 5 December 1983.

14 December 1983, Letter sent to the Governor of Texas transmitting a proposed section 8(g) agreement.

14-16 February 1984, RTWG meeting held in New Orleans.

-- Proposed Notice of Sale for Sale 84 published in the Federal Register on 27 February 1984.

21 February 1984, Letters to Governors of Texas and Louisiana transmitting the proposed Notice of Sale and requesting comments on the size, timing, and location of Sale 84 pursuant to section 19 of the OCS Lands Act (OCSLA).

27 February 1984, Letters sent to the OCS Policy members of Texas and Louisiana transmitting the proposed Notice of Sale.

2 March 1984, Letter to the Governor of Texas concerning section 8(g) information.

20-22 March 1984, OCS education and information exchange meeting with Florida OCS representatives, industry, and MMS (including the Deputy Associate Director of Offshore Leasing), held in Panama City, Tampa, and Fort Myers, Florida.

1 June 1984, Letter to the Governor of Texas relating DOI's position on Sale 84 size and fair market value considerations.

-- Final Notice of Sale published in the Federal Register on 14 June 1984.

11 June 1984, Letter to the Governor of Texas explaining the balance struck between State and national interests and responding to the Governor's size, timing, and location recommendations pursuant to section 19 of the OCSLA.

13-14 June 1984, RTWG meeting in Tampa, Florida.

13 June 1984,	Letters to the OCS Policy Committee members from Texas and Louisiana transmitting a copy of the final Notice of Sale.
18 June 1984,	Letter to the Governor of Louisiana transmitting the final Notice of Sale.
29 June 1984,	Letter to Governor of Texas containing further information about Sale 84 size and fair market value considerations.
18 July 1984,	Lease Sale 84 held in Houston, Texas

Sale 81, Central Gulf of Mexico

Chronology of Prelease Consultation with States and the U.S. Department of Defense

-- Extensive consultation prior to issuance of the Call for Information.

11 August 1982,	Letter to the Governors of Louisiana, Mississippi, and Alabama announcing initial planning efforts for Sales 81 and 84.
12 August 1982,	Letters sent to five Governors and 44 government offices and agencies requesting resource reports for Sale 81.
24-26 August 1982,	Regional Technical Working Group (RTWG) meeting in New Orleans.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 7 May 1982.

-- Call for Information published in the Federal Register on 28 September 1982.

5 November 1982,	Letters sent to the Governors of Louisiana, Mississippi, and Alabama concerning section 8(g) information for Sale 81.
18-20 January 1983,	RTWG meeting held in Biloxi, Mississippi.
24 January 1983,	Letter to U.S. Air Force, Navy, and NASA requesting comments on Sales 81 and 84.

-- Draft EIS for Sales 81 and 84 released on 6 July 1983.

15 August 1983,	Public hearing concerning the draft EIS held in New Orleans.
14 September 1983,	Letter to DOD requesting comments on Sale 81.
15-17 November 1983,	RTWG meeting in New Orleans discussing the draft EIS.

-- Final EIS for Sales 81 and 84 notice of availability published in the Federal Register on 5 December 1983.

-- Proposed Notice of Sale published in the Federal Register on 16 December 1983.

9 December 1983,	Letters to the Governors of Alabama, Mississippi, Texas, and Louisiana transmitting the proposed Notice of Sale and requesting comments on the size, timing, and location of Sale 81 pursuant to section 19 of the Outer Continental Shelf Lands Acts (OCSLA).

9 December 1983,	Letters to the States of Louisiana, Mississippi, and Alabama transmitting a determination of the consistency of Sale 81 with the respective States' coastal zone management (CZM) programs, pursuant to a 9th circuit court of appeals decision on the applicability of section 307(c)(1) of the CZM Act to Outer Continental Shelf (OCS) lease sales.
14 December 1983,	Letters sent to the Governors of Mississippi, Louisiana, and Alabama transmitting proposed section 8(g) agreements.
2 January 1984,	Letter to Alabama OCS Policy Committee member transmitting the proposed Notice of Sale.
3 January 1984,	Letters to the Texas, Mississippi, and Louisiana OCS Policy Committee members transmitting the proposed Notice of Sale.
4 January 1984,	Meeting between the Secretary of Interior, MMS Director, and Governor Treen of Louisiana to discuss section 8(g) blocks where geologic structures common to adjacent State submerged lands may exist.
13 January 1983,	Letter to the Governor of Alabama proposing a section 7 agreement to allow 7 blocks offshore Alabama to be included in Sale 81.
14-16 February 1984,	RTWG meeting held in New Orleans.
2 March 1984,	Meeting between MMS staff and Alabama State Oil and Gas Board representatives to discuss unitization between Federal and State leases.

-- Final Notice of Sale published in the Federal Register on 20 March 1984.

20 March 1984,	Letters to the Governors of Texas, Louisiana, Alabama, and Mississippi explaining the balance struck between State and National interests and responding to the Governors' size, timing, and location recommendations pursuant to section 19 of the OCSLA.
20-22 March 1984,	OCS education and information exchange meeting held in Panama City, Tampa, and Fort Meyers, Florida.
26 March 1984,	Letter to OCS Policy Committee members from Alabama, Mississippi, Louisiana, and Texas transmitting a copy of the final Notice of Sale and response to Governors' section 19 comments.
5 April 1984,	Letter to DOD advising them of the forthcoming Federal Register Notice outlining a schedule for resolving multiple-use conflicts in Warning Areas W-155 and 174.
24 April 1984,	Lease Sale 81 held in New Orleans, Louisiana.

Sale 83, Navarin Basin

Chronology of Prelease Consultation with the State of Alaska

-- Consultation prior to issuance of the Call for Information

1 December 1980,	Letters to the Governor of Alaska and 12 Alaska government agencies and offices requesting resource reports for Sale 83.

-- Call for Information published in the Federal Register, 21 May 1982.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register, 16 June 1982.

-- Scoping meetings for Sale 83:

8 June 1982,	in Anchorage.
16 June 1982,	in Unalaska.
6 July 1982,	in Bethel.
7 July 1982,	in Nome.
8 July 1982,	in Savoonga and Gambell by teleconference.

-- Draft EIS for Sale 83 released on 24 June 1983.

1 August 1983,	Notice of Public Hearings on the Sale 83 draft EIS published in the Federal Register.
8 August 1983,	Notified the Governor's office by phone of the public hearing locations and dates.

-- Public hearings on the Sale 83 draft EIS:

8 August 1983,	in Anchorage.
9 August 1983,	in Ulalaska.
10 August 1983,	in Emmonak and St. Paul Island.
11 August 1983,	in Nome, Savoonga, and St. George Island as well as Gambell by teleconference.

-- Final EIS for Sale 83 notice of availability published in the Federal Register on 28 November 1983.

-- Proposed Notice of Sale published in the Federal Register 9 on December 1983.

5 December 1983,	Letter to the Governor of Alaska transmitting the proposed Notice of Sale and requesting size, timing, and location comments pursuant to section 19 of the Outer Continental Shelf (OCS) Lands Act.
5 December 1983,	Letter to Robert Grogan, State of Alaska, Associate Director, Division of Governmental Coordination, transmitting a determination of the consistency of Sale 83 with the Alaska Coastal Management Program, pursuant to a 9th circuit court of appeals decision on the applicability of section 307(c)(1) of the Coastal Zone Management Act to OCS lease sales.

15 December 1983,	Letter to Ms. Lennie Boston, Alaska OCS Policy Committee member, transmitting a copy of the December 5, 1983, letter to the Governor and the consistency determination.
9 March 1984,	Letter to the Governor of Alaska responding to his recommendations concerning the OCS oil and gas leasing program off Alaska, including Sale 83.

-- Final Notice of Sale published in the Federal Register on 16 March 1984.

14 February 1984,	Meeting between Minerals Management Service (MMS) Director and John Katz (Director of State/Federal Relations and Special Counsel to the Governor of Alaska) to discuss Sale 83 concerns.
27 February 1984,	Meeting between Governor Sheffield and Secretary of the Interior William Clark.
12 March 1984,	Letter to the Governor of Alaska explaining the balance struck between State and National interests and responding to the Governor's size, timing, and location comments pursuant to section 19 of the OCS Lands Act.
19 March 1984,	Letters sent to Ms. Kay Brown (State of Alaska, Director, Division of Oil and Gas) and Robert Grogan (State of Alaska; Associate Director, Division of Governmental Coordination) transmitting a copy of the Sale 83 final Notice of Sale.
6 April 1984,	Meeting between MMS staff and North Slope Borough representatives to discuss Sale 83 concerns.
20 April 1984,	Letter to the Governor of Alaska from the Director, MMS providing a detailed discussion of the Governor's section 19 recommendations and DOI responses.
30 April 1984,	Meeting between Director, MMS and Alaska representatives including John Katz to discuss Sale 83 concerns.
11 May 1984,	Meeting between Director, MMS and Alaska representatives including John Katz to discuss Sale 83 concerns.
17 April 1984,	Lease Sale 83 held in Alaska.

Sale 87, Diapir Field

Chronology of Prelease Consultation with the State of Alaska, the North Slope Borough, and the U.S. Department of Defense

-- Consultation prior to issuance of the Call for Information.

15 January 1982,	Letters to the Governor of Alaska and 7 Alaska governmental agencies and offices requesting resource reports for Sale 87.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register, 16 June 1982.

-- Call for Information published in the Federal Register, 23 November 1982.

20 December 1982,	Letter to Mr. Ross Schaff (State Geologist, State of Alaska) identifying geologic structures and/or traps within 3 miles seaward of the boundary of State lands.
27 January 1982,	Letter to Mr. Ross Schaff (State Geologist, State of Alaska) identifying geologic structures and/or traps within 3 miles seaward of the boundary of State lands.
13 April 1983,	Letter to U.S. Department of Defense, Air Force, Navy, Coast Guard, and NASA, and requesting information on potential conflicts between military and oil and gas operations in the proposed Sale 87 area.

-- Scoping meetings for Sale 87:

10 January 1983,	in Barrow.
11 January 1983,	in Wainwright.
13 January 1983,	in Anchorage.
20 January 1983,	in Kaktovik.
31 January 1983,	in Nuiqsut.

-- Draft EIS for Sale 87 released on 21 September 1983.

26 September 1983,	Letter to Mr. Eugene Brower (North Slope Borough Mayor) informing him of the dates for the upcoming hearings on the draft EIS.
24 October 1983,	Public hearing on the Sale 87 draft EIS held in Barrow.
27 October 1983,	Public hearing on the Sale 87 Draft EIS held in Anchorage.
14 February 1984,	Meeting between the Director of the Minerals Management Service (MMS) and John Katz, Special Counsel for the State of Alaska.
27 February 1984,	Meeting between the Secretary of Interior and the Governor of Alaska concerning Sale 87.
2 March 1984,	Meeting between the Under Secretary of the Interior, the North Slope Borough Washington legal counsel, and John Katz to discuss biological studies and measures necessary to protect natural resources essential to the subsistence of Alaskan native Americans.
5 March 1984,	Meeting between the Director, MMS Alaska Region and Alaska Department of Natural Resources representatives to discuss Sale 87 concerns.
9 March 1984,	Letter to the Governor of Alaska responding to Alaska's recommendation to eliminate areas of low hydrocarbon potential from proposed Sale 87.

-- Final EIS for Sale 87 notice of availability published in the Federal Register, 16 March 1984.

-- Proposed Notice of Sale published in the Federal Register, 19 March 1984.

13 March 1984,	Letter to the Governor of Alaska transmitting the proposed Notice of Sale and requesting comments pursuant to section 19 of the Outer Continental Shelf Lands Act (OCSLA).
16 March 1984,	Letter to Mr. Ross Schaff (State Geologist, State of Alaska) identifying geologic structures and/or traps within 3 miles seaward of the boundary of State lands.
16 March 1984,	Letter to Ms. Lennie Boston, OCS Policy Committee member from Alaska, transmitting the proposed Notice of Sale.
21 March 1984,	Letters to Ms. Kay Brown (Director, Alaska Division of Oil and Gas) and Mr. Robert Grogan (Alaska Associate Director, Office of Governmental Coordination) transmitting a copy of the proposed Notice of Sale.
23 March 1984,	Letter to Governor of Alaska proposing an agreement with the State pusuant to section 8(g) of the OCSLA.
6 April 1984,	Meeting between the MMS Deputy Associate Director for Offshore Leasing and representatives of the North Slope Borough's Washington legal counsel to discuss possible deferrals and mitigating measures.
30 April 1984,	Meeting between MMS Director and John Katz.
Early May 1984,	Conversation between Secretary of the Interior William Clark and Governor Sheffield in Fairbanks, Alaska.
10 May 1984,	Letter to North Slope Borough's Washington legal counsel for information on biological studies and mitigating measures.
11 May 1984,	Letter to Governor of Alaska informing him of section 8(g) funds that are held in escrow and information sharing procedures pursuant to the OCSLA.
11 May 1984,	Meeting between the Director of MMS, the MMS Deputy Assistant Director for Offshore Leasing, John Katz, and the North Slope Borough's Washington legal counsel to discuss deferrals and mitigating measures.
11 May 1984,	Letter to John Katz from the Director of MMS regarding MMS environmental study plans in the Beaufort Sea.
16 May 1984,	Meeting with State of Alaska concerning blocks of disputed jurisdiction pursuant to Section 7 of the OCSLA.
30 May 1984,	Letter to Ms. Kay Brown (Director, Alaska Division of Oil and Gas) transmitting the section 7 agreement and unitization agreement.

15 June 1984, Meeting with Ed Phillips (State of Alaska Department of Natural Resources) concerning the economic effects of a 2-year drilling moratorium east of Barter Island on section 8(g) blocks.

27 June 1984, Environmental Assessment for Sale 87 notice of availability published in the Federal Register.

27 June 1984, Meeting between Director of MMS and Esther Wunnicke, Alaska Commissioner of Natural Resources.

5 July 1984, Letter to Governor of Alaska thanking him for his comments on the proposed Notice of Sale and pledging to consider them in making a decision for Sale 87.

10 July 1984, Letter to Ms. Shelley Higgins (Alaska Assistant Attorney General) transmitting the proposed section 7 and unitization agreements.

13 July 1984, Letter to Ron Mitchell (Chief, State of Alaska Coastal/Marine Boundary Section) transmitting supplemental block diagrams.

17 July 1984, Letter to Mr. Ross Schaff (State Geologist, State of Alaska) identifying geologic structures and/or traps within 3 miles seaward of the boundary of State lands.

18 July 1984, Section 7 agreement signed by Esther Wunnicke and Secretary of Interior William Clark.

-- Final Notice of Sale published in the Federal Register on 23 July 1984.

18 July 1984, Letter to Governor of Alaska explaining the balance struck between State and national interests and responding to the Governor's size, timing, and location recommendations pursuant to section 19 of the OCSLA.

19 July 1984, Letter to Ms. Lennie Boston, OCS Policy Committee member from Alaska, transmitting a copy of the 18 July 1984 letter to the Governor and the final Notice of Sale.

26 July 1984, Letter to Mr. Robert Grogan (State of Alaska; Associate Director, Office of Governmental Coordination) transmitting the final Notice of Sale.

13 August 1984, Letter to Lloyd Ahvakana (Acting Mayor of Barrow) responding to his comments on the sale.

22 August 1984, Lease sale 87 held in Alaska.

Sale 90, South Atlantic
Chronology of Prelease Consulation with States, Congress, and the U.S. Department of Defense

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 8 November 1982.

-- Request for Resource Reports sent to the U.S. Department of Defense (DOD) on 27 January 1983.

-- Call for Information published in the Federal Register on 26 May 1983.

27 May 1983,	Memorandum of Understanding (MOU) signed between the Department of the Interior (DOI) and the State of North Carolina which addressed leasing off the coast of North Carolina for Sale 78. MOU also affects Sale 90.
9 June 1983,	Letter to James A. McClure (Chairman, Committee on Energy and Natural Resources, U.S. Senate) relating the agreements reached with the States of Florida and North Carolina, and the DOI.
13 June 1983,	MOU signed between DOI and the State of Florida regarding South Atlantic leasing activities.
7 July 1983,	Meeting of the South Atlantic Regional Technical Working Group (RTWG) in Vienna, Virginia to discuss the Call for Information.
9 September 1983,	Letter to National Aeronautics and Space Administration (NASA) transmitting DOD/DOI Memorandum of Agreement on multiple use conflicts.
14 September 1983,	Letter to the Department of Navy providing a copy of the Call for Information.
19 September 1983,	Letter to Rear Admiral R.A. Bauman (U.S. Coast Guard) from Minerals Managment Service (MMS) Associate Director for Offshore Minerals Management requesting comments on potential conflicts between the U.S. Coast Guard and offshore leasing.
6 October 1983,	Letter to the Governor of North Carolina responding to his concerns voiced in response to the May 26, 1983, Call for Information.
26 October 1983,	Meeting of the South Atlantic RTWG to discuss the draft EIS.
28 October 1983,	Letter to Ms. Jane S. Patterson (Secretary of the State of North Carolina, Department of Administration) transmitting the Area Identification.
9 November 1983,	Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities, from the Director, MMS acknowledging receipt of his letter concerning potential military conflicts in the South Atlantic and stating that the MMS is evaluating his proposal.
21 November 1983,	Letter to Mr. Eric Vernon (North Carolina Office of Marine Affairs) arranging a meeting to discuss South Atlantic fisheries data.

8 December 1983, Meeting in Raleigh, North Carolina with biologists from each coastal State to discuss fisheries data for the draft EIS.

22 December 1983, Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities, from the Director, MMS responding to the Navy's letter of October 28, 1983, requesting deletion of certain blocks within the South Atlantic planning area.

-- Supplemental Call for Information published in the Federal Register on 30 March 1984.

-- Notice of Availability of draft EIS published in the Federal Register on 25 April 1984.

10 April 1984, Letters to the State Governors of the affected South Atlantic states, RTWG and OCS Policy Board members, and State Geologists transmitting a copy of the Request for Supplemental Information.

3 May 1984, South Atlantic RTWG meeting held in Savannah, Georgia to comment on the draft EIS.

23 May 1984, Meeting with Director, MMS, and Representative Bill Nelson (D-FL) to discuss Sale 90.

12 and 14 June 1984, Public hearings on draft EIS held in Daytona Beach, Florida and Raleigh, North Carolina, respectively.

19 June 1984, Letter to Sidney Yates (Chairman, House Appropriations Subcommittee on Interior and Related Agencies, U.S. House of Representatives) from the Assistant Secretary - Land and Minerals Management (AS/LM), explaining the DOI's plans to resolve joint use conflicts in the South Atlantic.

21 June 1984, Meeting with MMS staff and Randy Bowman of Senator Paula Hawkins Staff regarding Sale 90.

22 June 1984, Letter to Senator Lawton Chiles from AS/LM responding to his June 4, 1984, letter concerning the configuration of the proposed South Atlantic sale.

27 June 1984, Meeting of Director, MMS, and Deputy Associate Director for Offshore Leasing with Representative Chappell (D-FL) regarding Sale 90.

28 June 1984, Letter to Representative Bill Chappell explaining DOI plans for Sale 90 as influenced by the area of geologic potential and the requested exclusions by DOD and NASA.

28 July 1984, Letter to Senator Paula Hawkins from AS/LM explaining deletions south of 26° N latitude for proposed Sale 90.

17 July 1984, The AS/LM and MMS staff met with the Assistant Secretary of the Air Force and his staff as well as the Director, Installations and Facilities, Department of the Navy to discuss requests for withdrawals in the Sale 90 planning area.

19 July 1984, Deputy Associate Director for Offshore Leasing, MMS, met with staff from Senators Chiles' and Hawkins' offices regarding Sale 90.

24 August 1984,	Letter to Governor of Florida from the Director, MMS concerning the sale configuration off the coast of Florida for proposed Sale 90.
24 September 1984,	DOI news release and block list mailed to the Governors of the affected South Atlantic States, RTWG and Outer Continental Shelf (OCS) Policy Board members, and State Geologists announcing block deferrals.
27 September 1984,	Letter to Governor of Florida from the Director, MMS concerning the modification of the Sale 90 area.
23 October 1984,	Followup letter to the Department of the Air Force transmitting status report on joint use issues.
26 October 1984,	Letter to Ms. Libby Herland (Florida Office of the Governor) asking for information on the biological stipulation.
9 November 1984,	Meeting with MMS staff, Ms. Libby Herland, and Mr. M. Rinkel (Florida Office of the Governor) to discuss the biological stipulation.

-- Notice of Availability of final EIS published in the Federal Register on 28 January 1985.

20 February 1985,	MMS news release to affected State Governors, RTWG and OCS Policy Board members, and State Geologists announcing indefinite delay of sale.

Sale 111, Mid-Atlantic
Chronology of Prelease Consulation with the Mid-Atlantic States, Congress, and the U.S. Department of Defense

-- Call for Information published in the Federal Register on 20 October 1983.

28 October 1983,	Letter from the Director, Minerals Management Service (MMS) to the Deputy Assistant Secretary of the Navy notifying him of the Call for Information issuance.
29 December 1983,	Letters from the Regional Director (RD), Atlantic OCS Region, to Governors of the affected States informing them that no blocks subject to section 8(g) of the OCS Lands Act (OCSLA) have been identified by MMS.
16 March 1984,	Letters from the Atlantic RD to Dr. Kenneth N. Weaver (Director, Maryland Geological Survey) and Dr. Robert R. Jordan (Delaware State Geologist) detailing the data used to reach the decision that no section 8(g) blocks had been identified.
21 March 1984,	The Director, MMS and the Assistant Secretary - Land and Minerals Management (AS/LM) met with Representative Jones (Chairman, Merchant Marine and Fishing Committee) to provide updated information concerning Sale 111.
26 March 1984,	Letters from the Director, MMS to members of Mid-Atlantic Congressional Delegations inviting them to a Sale 111 Area Identification briefing on 30 March 1984.

28 March 1984,	Meeting of the Director, MMS and the Mid-Atlantic Governor's Resource Advisory Council where a discussion of the Sale 111 Area Identification took place.
30 March 1984,	Briefing of Mid-Atlantic Congressional Delegation members conducted by MMS staff.
3 April 1984,	Letters from the Atlantic RD to the affected State Governors, State Geologists, Regional Technical Working Group (RTWG) members, and OCS Policy Board members transmitting the Area Identification news release and block list.
11 April 1984,	Mid-Atlantic Biological Task Force meeting at the Atlantic OCS Regional Office.
12 April 1984,	The Director, MMS briefed Represenative Hughes (D-NJ) on the Sale 111 Area Identification.
13 April 1984,	Letter to Rear Admiral Theodore Wojnar (Chief, Office of Navigation (G-N), U.S. Coast Guard) from the Associate Director for Offshore Minerals Management requesting comments on potential U.S. Coast Guard/OCS conflicts in the sale area.
24 April 1984,	Public scoping meeting for Sale 111 in New Brunswick, New Jersey. Attended by representatives from the New York State Department of Environmental Conservation and from the New Jersey Department of Environmental Protection.
26 April 1984,	Public scoping meeting for Sale 111 in Norfolk, Virginia attended by members of the Southwestern Virginia Planning Commission and a representative of the U.S. Naval Surface Weapons Center, Dahlgren, Virginia.
30 April 1984,	Letter to General Billie J. McGarvey (National Aeronautics and Space Administration) advising him of the area under consideration for oil and gas leasing for Sale 111.
2 May 1984,	Letter from the Director, MMS, to Mr. Fred Sterns, Director of Installations and Facilities, Department of the Navy transmitting the Area Identification and requesting a Department of Defense (DOD) analysis.

-- Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 10 May 1984.

20 June 1984,	Letters from Regional Director to Governors of the affected States informing them that no blocks subject to section 8(g) of OCSLA will be included in the sale.
19 July 1984,	Letter to Mr. Larry Schmidt (New Jersey Department of Environmental Protection) asking him to update certain information in a report entitled "Tech. Update 23."
23 August 1984,	Letters to the State Historic Preservation Officers of the affected States asking for comments on the geological report concerning the potential for prehistoric site occurrence in the proposed Sale 111 area.

27 September 1984, Letter to Ms. Rebecca Harrison (Office of New York's State Historic Preservation) transmitting a copy of "Summary and Analysis of Cultural Resource Information on the Continental Shelf from the Bay of Fundy to Cape Hatteras" and a copy of the cultural resources stipulation attached to all Atlantic OCS leases.

15 October 1984, Letter to Fred Sterns, Director, Installations and Facilities, Department of the Navy from the Director, MMS discussing Navy/OCS conflicts in the Sale 111 area.

-- Notice of Availability of draft EIS published in the Federal Register on 15 November 1984.

11 December 1984, Mid-Atlantic RTWG meeting at the Atlantic OCS office in Vienna, Virginia. Representatives of affected States attended.

11 December 1984, Public hearings on draft EIS in Trenton, New Jersey. Attended by a representative of the New Jersey Department of Environmental Protection.

14 December 1984, Public hearings on draft EIS in Annapolis, Maryland. Attended by representatives of the Maryland Geological Survey, Department of Natural Resources, the State of North Carolina's Attorney General's Office and the North Carolina OCS Task Force.

24 January 1985, Letter to Mr. Robert Parsons (Mayor of Bethany Beach, Delaware) clarifying hypothetical placement of pipelines as described in the draft EIS scenario.

Sale 94, Eastern Gulf of Mexico
Chronology of Prelease Consultation with States and the U.S. Department of Defense

--Notice of Intent to prepare an environmental impact statement (EIS) for sales 94, 98, and 102 published in the Federal Register on 8 November 1982.

19 August 1983, Letters to the Governor of Alabama and Florida from the Gulf of Mexico Regional Director (RD) transmitting environmental information within the section 8(g) zone.

31 August 1983, Letters to the Governors of Alabama and Florida from the Gulf of Mexico RD transmitting information concerning common pools/common structures and extending an invitation to view MMS proprietary data.

--Call for Information published in the Federal Register on 9 September 1983.

9 January 1984, Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities, from the Director, MMS notifying the Department of the Navy of the Area Identification for Sales 94, 98, and 102.

14-16 February 1984, Regional Technical Working Group meeting held in Metairie, Louisiana. Scoping efforts concerning the proposed 1985 sales were conducted at each of these meetings.

20-22 March 1984, A series of Outer Continental Shelf (OCS) education and information exchange meetings sponsored by the State of Florida, DOI, and the Florida Petroleum Council were held in Panama City, Tampa, and Ft. Myers, Florida, and provided a forum for all interested parties to ask questions and express their concerns on offshore leasing before a panel of OCS specialists.

23 March 1984, Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities, from the Assistant Secretary - Land and Minerals Management (AS/LM) discussing military operating areas W-155 and W-174 in the Eastern Gulf of Mexico.

11 April 1984, Letters from the Director, MMS, to the Governors of Mississippi, Louisiana, Alabama, and Texas discussing modifications in Sales 98, 102, and 94.

18 April 1984, Federal Register Notice requesting comment on possible joint-use conflicts with military operating areas W-155 and W-174.

23 April 1984, Letter to Director, Installations and Facilities, Department of the Navy from the Director, MMS, discussing modifications in the Sale 94 and 102 sale areas.

--Notice of Availability of draft EIS for Sales 94, 98, and 102 published in the Federal Register on 9 March 1984.

25 April 1984, The Director, MMS, and Chief, Congressional Legislative Affairs Office, MMS, met with Senator Hawkins (Florida) to discuss OCS activities in the eastern Gulf of Mexico.

May 1984, A Department of Defense (DOD) meeting was held in New Orleans to discuss the situation regarding Warning Area 155 and the Navy's concern over oil/gas structure placement conflicting with carrier maneuvers.

17 July 1984, The AS/LM met with the Secretary of the Air Force and staff as well as the Director, Installations and Facilities, Department of the Navy to discuss DOD requests for withdrawals.

26 July 1984, Deputy Assistant Director for Offshore Leasing and MMS staff briefed Representative Young's (Florida) office on the status of Sale 94.

10 August 1984, Letter to Representative Bill Young (Florida) discussing Secretary Clark's deferrals in the Sale 94 sale area.

13, 14 August 1984, MMS staff briefed Senators Hawkins and Chiles and Representative Young on Sale 94 issues and the draft EIS.

11, 13, 14 September 1984, Public hearings held on the draft EIS for Sales 94, 98, and 102 in Corpus Christi, TX; Panama City, FL; and Metairie, LA, respectively.

6 November 1984, Letter to Verne Orr, Secretary of the Air Force from the Secretary of the Interior discussing Air Force/Interior negotiations in the area offshore Eglin Air Force Base.

18 December 1984, The Director, MMS, met with Murice Rinkel, Florida OCS Policy Committee Member, to discuss Sale 94 concerns.

24 January 1985, Phone call from the Chief, Offshore Leasing Management Division, MMS, to Jerry Henson, Department of the Navy, to discuss concerns within the military W-174 area.

--Notice of Availability of Final EIS for Sales 94, 98, and 102 published in the Federal Register on 3 January 1985.

Sale 98, Central Gulf of Mexico
Chronology of Prelease Consultation with the States and the U.S. Department of Defense

--Notice of Intent to prepare an environmental impact statement (EIS) for Sales 94, 98, and 102 published in the Federal Register on 8 November 1982.

19 August 1983, Letters to the Governors of the States of Alabama, Louisiana, and Mississippi from the Gulf of Mexico Regional Director (RD) transmitting environmental information within the section 8(g) zone offshore the respective States.

31 August 1983, Letters to the Governors of the States of Alabama and Mississippi from the Gulf of Mexico RD transmitting information concerning common pools/common structures and extending an invitation to view the MMS proprietary data.

2 September 1983, Letter to the Governor of Louisiana from the Gulf of Mexico RD transmitting information concerning common pools/common structures and extending an invitation to view the MMS proprietary data.

--Call for Information published in the Federal Register on 9 September 1983.

2 December 1983, Letter to Frank Simoneaux (Secretary, Department of Natural Resources, State of Louisiana) responding to his previous letter regarding concerns within the section 8(g) zone off Louisiana.

9 January 1984, Letter to the Deputy Assistant Secretary, Installations and Facilities, Department of the Navy from the Director, MMS, notifying the Navy of the Sale 98 Area Identification.

25 January 1984, Letter to Frank Simoneaux (Secretary, Department of Natural Resources, State of Louisiana) from the Gulf of Mexico RD discussing common pools/common structure determinations for blocks to be offered in Sale 98.

--Notice of Availability of the draft EIS for Sales 94, 98 and 102 published in the Federal Register on 9 March 1984.

11 April 1984, Letters from the Director, MMS, to the Governors of Mississippi, Louisiana, Alabama, and Texas discussing modifications in Sales 98, 102, and 94.

11,13,14 September 1984, Public hearings held on the draft EIS for Sales 94, 98, and 102 in Corpus Christi, TX; Panama City, FL; and Metairie, LA, respectively.

23 October 1984, Phone calls to Jerry Hensen, Department of the Navy from the Chief, Branch of Sales Activities (BSA), MMS, discussing options for blocks in military warning area W-155.

18 December 1984, Letter to Jerry Hensen, Department of the Navy, from the Chief, Offshore Leasing Management Division (OLMD) MMS, discussing proposed stipulation language for military warning area W-155.

27 December 1984, Letters to the Governors of Mississippi, Alabama, Louisiana, and Texas from the Assistant Secretary - Land and Minerals Management (AS/LM) transmitting a copy of the proposed Notice of Sale and requestng his comments on the size, timing or location of the Sale pursuant to section 19 of the Outer Continental Shelf Lands Act (OCSLA).

28 December 1984, Letters to the OCS Policy Committee members from the States of Louisiana, Mississippi, Alabama, and Texas from the Deputy Assistant Director for Offshore Leasing (DADOL) transmitting a copy of the section 19 letter to the Governors of their respective States and a copy of the proposed Notice of Sale.

--Notice of Availability of the final EIS for Sales 94, 98, and 102 published in the Federal Register on 3 January 1985.

3 January 1985, Letters to the Governors of the States of Mississippi, Florida, Alabama, Louisiana, and Texas from the Gulf of Mexico Regional Director transmitting a copy of the proposed Notice of Sale and other documents of interest for Sale 98.

--Proposed Notice of Sale for Sale 98 published in the Federal Register on 4 January 1985.

17 January 1985, Letters to the Governors of the States of Mississippi, Alabama, and Louisiana from the Solicitor, Department of the Interior, proposing a special agreement on common pools/common structures pursuant to section 8(g) of the OCSLA.

24 January 1985, Letter to Jerry Henson, Department of the Navy, from the Chief OLMD transmitting a copy of the proposed Notice of Sale and discussing concerns within the military areas W-155 and W-174.

Sale 102, Western Gulf of Mexico
Chronology of Prelease Consultation with States and the U.S. Department of Defense

--Notice of Intent to prepare an environmental impact statement (EIS) for Sales 94, 98, and 102 published in the Federal Register on 8 November 1982.

19 August 1983, Letter to the Governor of Texas from the Gulf of Mexico Regional Director (RD) transmitting environmental information within the section 8(g) zone off Texas.

31 August 1983, Letter to the Governor of Texas from the Gulf of Mexico RD transmitting information concerning common pools/common structures and extending an invitiation to view the MMS proprietary data.

--Call for Information published in the Federal Register on 9 September 1983.

9 January 1984, Letter to the Deputy Assistant Secretary, Installations and Facilities, Department of the Navy from the Director, MMS notifying the Navy of the Area Identification for Sales 94, 98, and 102.

14-16 February 1984, Regional Technical Working Group meeeting held in Metairie, Louisiana. Scoping efforts concerning the proposed 1985 sales were conducted at each of these meetings.

11 April 1984, Letters from the Director, Minerals Management Service (MMS) to the Governors of Mississippi, Louisiana, Alabama, and Texas discussing modifications in Sale 102.

11 April 1984, Letters from the Director, MMS, to the Governors of Mississippi, Louisiana, Alabama, and Texas discussing modifications in Sales 98, 102, and 94.

23 April 1984, Letter to the Director for Installations and Facilities, Department of the Navy from the Director, MMS, discussing modifications in the Sale 102 sale area.

--Notice of Availability of the draft EIS for Sales 94, 98, and 102 published in the Federal Register on 9 March 1984.

11, 13, 14 September 1984, Public hearings held on the draft EIS for Sales 94, 98, and 102 in Corpus Christi, TX; Panama City, FL; and Metairie, LA, respectively.

--Notice of Availability of final EIS for Sales 94, 98, and 102 published in the Federal Register on 3 January 1985.

Sale 104, Central Gulf of Mexico
Chronology of Prelease Consultation with the States
and the U.S. Department of Defense

12 June 1984, Letters to the Governors of Mississippi, Alabama, Louisiana, and Texas advising the Governor about the Call for Information and providing enclosures on the proposed Call and environmental studies information. At this time section 8(g) information concerning common pools/common structures was transmitted and an invitation was extended to view the Minerals Management Service's (MMS's) proprietary data.

14 June 1984, Regional Technical Working Group meetings for the three Gulf of Mexico planning areas were held in Tampa, Florida. Scoping efforts concerning the proposed 1986 sales were conducted at each of these meetings.

--Call for Information and Notice of Intent (NOI) to prepare an environmental impact statement (EIS) for Sales 104 and 105 published in the Federal Register on 15 June 1984.

21 June 1984, Letter to Director, Installations and Facilities, Department of Navy from the Director, MMS alerting him to the Sale 104 and 105 Call for Information and NOI.

21 August 1984,	Letter to Mr. William C. Huls (Secretary, Louisiana Department of Natural Resources) from the Director, MMS discussing the State's comments on Sales 104 and 105 Call for Information and NOI.
30 August 1984,	Requests for resource information were mailed to the States amd the Department of Defense (DOD). This involved requests for specific technical information and for updated information from agencies which had jurisdiction or special expertise with respect to possible environmental standards to mitigate such impacts.
30 August 1984,	Request for Resource Reports for the Draft EIS for proposed Sales 104 and 105 were sent to State and local government agencies, and DOD. In most casses, specific technical information was requested.
26 September 1984,	Following the Area Identification (AI) decision additional scoping letters were sent to the Governors announcing the results of the AI. These further solicited comments and recommendations on potential mitigating measures, alternatives to the proposed actions, significant issues for analysis in the EIS, and potential development scenarios. Similar announcements were also sent to interested State agencies and DOD.
28 September 1984,	Letter to the Director, Installations and Facilities, Department of the Navy from the Director, MMS notifying him of the Area Identification for Sales 104 and 105.
12 October 1984,	Letters to Governors of Texas, Alabama, and Louisiana regarding Area Identification for EIS planning.
16 October 1984,	Letter to Governor of Mississippi regarding Area Identification for EIS planning.
18 October 1984,	Letter to Governor of Florida regarding Area Identification for EIS planning.
1-15 August 1984,	Additional contact was made with the affected States because of the poor response to the Call and NOI, and to comply with the Secretary's policy of resolving conflicts as early as possible at the AI stage in the leasing process. Telephone calls were made to State Regional Technical Working Group members or designees in Alabama, Louisiana, Texas, and Mississippi requesting informally any input on areas of concern and potential multiple use conflicts.
24 October 1984,	Letters to the five Gulf of Mexico States announcing the AI decision and requesting scoping information on potential mitigating measures, alternatives to the proposed action, significant issues, and development scenarios. Shortly thereafter, similar requests were sent to appropriate State agencies and DOD.
29 November 1984,	Regional Technical Working Group meetings were held in Metairie, Louisiana. Scoping efforts concerning the proposed 1986 sales were conducted at each of these meetings.

Sale 105, Western Gulf of Mexico
Chronology ~~of Prelease~~ Consultation with the States
and the U.S. Department of Defense

12 June 1984,	Letters to Governors of Mississippi, Alabama, Louisiana, and Texas advising the Governors about the Call for Information and providing enclosures on the proposed Call and environmental studies information. At this time section 8(g) information concerning common pools/common structures was transmitted and an invitation made to view Minerals Management Service's (MMS's) proprietary data.
14 June 1984,	Regional Technical Working Group meetings for the three Gulf of Mexico planning areas were held in Tampa, Florida. Scoping efforts concerning the proposed 1986 sales were conducted at each of these meetings.

--Call for Information and Notice of Intent (NOI) to prepare an environmental impact statement (EIS) for Sales 104 and 105 published in the Federal Register on 15 June 1984.

21 June 1984,	Letter to the Director, Installations and Facilities, Department of the Navy from the Director, MMS alerting him of Sales 104 and 105 Call for Information and NOI.
24 August 1984,	Letter to Mr. William C. Huls (Secretary, Louisiana Department of Natural Resources) from the Director, MMS discussing the State's comments on Sales 104 and 105 Call for Information and NOI.
30 August 1984,	Requests for resource information were mailed to the States and the Department of Defense (DOD). This involved requests for specific technical information and for updated information from agencies which had jurisdiction or special expertise with respect to possible environmental impacts resulting from the lease sales or with authorization to develop and enforce environmental standards to mitigate such impacts.
30 August 1984,	Requests for Resource Reports for the Draft EIS for proposed Sales 104 and 105 were sent to State, local government agencies, and DOD. In most cases, specific technical information was requested.
26 September 1984,	Following the Area Identification (AI) decision additional scoping letters were sent to the Governors announcing the results of the Area Identification. These further solicited comments and recommendations on potential mitigating measures, alternatives to the proposed actions, significant issues for analysis in the EIS, and potential development scenarios. Similar announcements were also sent to interested State agencies and DOD.
28 September 1984,	Letter to the Director for Installations and Facilities, Department of the Navy from the Director, MMS notifying him of the Area Identification for Sales 104 and 105.
12 October 1984,	Letters to Governors of Texas, Alabama, and Louisiana regarding Area Identification for EIS planning.

16 October 1984, Letter to Governor of Mississippi regarding Area Identification for EIS planning.

18 October 1984, Letter to Governor of Florida regarding Area Identification for EIS planning.

1-15 August 1984, Additional contact was made with the affected States because of the poor response to the Call and NOI, and to comply with the Secretary's desire to resolve conflicts at the AI stage in the leasing process. Telephone calls were made to State Regional Technical Working Group members or designees in Alabama, Louisiana, Texas, and Mississippi requesting informally any input on areas of concern/multiple use conflict.

24 October 1984, Letters to the five Gulf of Mexico States announcing the AI decision and requesting scoping information on potential mitigating measures and alternatives to the proposed action, significant issues, and development scenarios. Shortly thereafter, similar requests were sent to appropriate State agencies and DOD.

29 November 1984, Regional Technical Working Group meetings were held in Metairie, Louisiana. Scoping efforts concerning the proposed 1986 sales were conducted at each of these meetings.

Sale 88, Gulf of Alaska/Cook Inlet
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

28 January 1982, Letters sent to the Governor and 12 Alaska Government agencies and offices requesting resource reports for Sale 88.

12 July 1982, Letters sent to the Governor and 12 Alaska government agencies and offices requesting resource reports for Sale 88 and notifying them of changes in the proposed Sale schedule.

--Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 8 November 1982.

--Call for Information published in the Federal Register on 16 March, 1983.

31 August 1983, Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities from the Director, Minerals Management Service (MMS), notifying the Navy of the Area Identification for Sale 88.

19 September 1983, Letter to the Chief, Office of Navigation, U.S. Coast Guard from the Associate Director for Offshore Minerals Management (ADOMM) requesting comments on potential Coast Guard/Outer Continental Shelf (OCS) conflicts in the Sale 88 area.

19 September 1983, Letter to the Director, Facilities Engineering and Computer Management, National Aeronautics and Space Administration (NASA) from the ADOMM requesting comments on potential NASA/OCS conflicts in the Sale 88 area.

--Notice of Availability of draft EIS published in the Federal Register on 20 January 1984.

--Public hearings on the Sale 88 draft EIS:

13 February 1984, in Yakutat.

14 February 1984, in Kodiak.

16 February 1984, in Anchorage.

9 March 1984, Letter to the Governor of Alaska from the Secretary of the Interior responding to the Governor's recommendations concerning the OCS oil and gas leasing program off Alaska.

--Request for Supplemental Information for oil and gas leasing in the Sale 88 area published in the Federal Register on 30 March 1984.

11 April 1984, Letter to Ms. Kay Brown (Director, Division of Oil and Gas, State of Alaska) from the Alaska Regional Director (RD) transmitting a copy of the Request for Supplemental Information for the sale.

11 April 1984, Letter to Mr. Robert Grogan (Associate Director, Office of Management and Budget, Division of Governmental Operations, State of Alaska) from the Alaska RD transmitting a copy of the Request for Supplemental Information for the sale.

8 June 1984, Letter to Ronald Mitchell (Alaska Department of Natural Resources) from the Chief, OCS Survey Group, MMS, transmitting split blocks diagrams for Sale 88.

--Notice of Availability of final EIS for Sale 88 published in the Federal Register on 13 July 1984.

--Proposed Notice of Sale (NOS) published in the Federal Register on 7 August 1984.

1 August 1984, Letter to the Governor of Alaska, transmitting the proposed NOS and requesting his comments on the size, timing, or location of the Sale pursuant to section 19 of the OCS Lands Act.

3 August 1984, Letter to the Governor of Alaska from Director, MMS, proposing an agreement between the State and Federal Government pursuant to provisions of section 8(g) of the OCS Lands Act.

8 August 1984, Letter to Ms. Lennie Boston (Special Staff Assistant to the Governor of Alaska) from the Deputy Associate Director for Offshore Leasing transmitting the proposed NOS and the section 19 letter to the Governor.

11 October 1984, Letter to Mr. Ross Schaff (State Geologist, State of Alaska) from the Alaska RD adding additional section 8(g) blocks which are considered potentially prospective.

11 October 1984, Phone call to Rod Swope (State of Alaska) from Bob Brock, Regional Supervisor for Leasing and Environment, MMS, discussing whether an additional Information to Lessees notice was necessary.

17 October 1984, Letter to the Governor of Alaska from the Director, MMS, responding to the Governor's 1 October 1984 letter concerning a fair and equitable disposition of revenues from the nearshore areas of Sale 88.

31 October 1984, The Director, MMS, met with officials from the State of Alaska to discuss Outer Continental Shelf (OCS) leasing offshore Alaska in general.

20 January 1985, Letter to Ms. Esther C. Wunnicke (Commissioner, Department of Natural Resources, State of Alaska) from the AS/LM responding to the State's request of deleting blocks from the sale.

20 February 1985, Sale 88 was delayed indefinitely by the Secretary of the Interior.

Sale 89, St. George Basin
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

26 March 1982, Request for resource reports for Sale 89 sent to the Governor of Alaska and eight Alaska government agencies and offices.

--Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 8 November 1982.

--Call for Information published in the Federal Register on 29 April 1983.

31 August 1983, Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities from the Director, Minerals Management Service (MMS) notifying the Navy of the Area Identification for Sale 89 and requesting comments on potential Outer Continental Shelf (OCS)/Navy conflicts.

--Scoping meetings for Sales 89/92:

13,14 September 1983, in Sand Point.

15,16 September 1983, in False Pass.

19 September 1983, Letter to the Chief, Office of Navigation, U.S. Coast Guard, from the Associate Director for Offshore Minerals Management (ADOMM), requesting comments on potential U.S. Coast Guard/OCS conflicts for Sale 89.

19 September 1983, Letter to the Director, Facilities Engineering and Computer Management, National Aeronautics and Space Administration (NASA) from the ADOMM requesting comments on potential NASA/OCS conflicts for Sale 89.

9 March 1984, Letter to the Governor of Alaska from the Secretary of the Interior responding to his recommendations concerning the OCS oil and gas leasing program off Alaska.

4 May 1984, Sale 89 draft EIS mailed to the Governor of Alaska.

--Notice of Availability of draft EIS for Sale 89 published in the Federal Register on 10 May 1984.

21 May 1984, Governor's Office notified of the public hearing schedule for the Sale 89 draft EIS.

--Public hearings on the Sale 89 draft EIS:

8 June 1984,	in Anchorage.
13 June 1984,	in Unalaska.
14 June 1984,	in St. George.
15 June 1984,	in St. Paul.
31 October 1984,	The Director, MMS, met with officials from the State of Alaska to discuss OCS leasing off Alaska in general.

Sale 92, North Aleutian Basin
Chronology of Prelease Consultation with the State of Alaska, Congress, and the U.S. Department of Defense

2 August 1982,	Letters sent to the Governor and 11 Alaska Government agencies and offices from the Regional Director, Alaska OCS Region, requesting resource reports for Sale 92.

--Notice of Intent to prepare an environmental impact statement (EIS) published in the Federal Register on 8 November 1982.

--Call for Information published in the Federal Register on 29 April 1983.

20 May 1983,	Letter to Ross Schaff (State Geologist, State of Alaska) identifying those section 8(g) blocks where geologic structures common to adjacent State submerged lands may exist.
31 August 1983,	Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities from the Director, Minerals Management Service (MMS), notifying the Navy of the Area Identification for Sale 92 and requesting comments on potential Outer Continental Shelf (OCS)/Navy conflicts.

--Scoping meetings for Sales 89/92:

13,14 September 1983,	in Sand Point.
15,16 September 1983,	in False Pass.
19 September 1983,	Letter to the Director, Facilities Engineering and Computer Management, National Aeronautics and Space Administration (NASA) from the Associate Director for Offshore Minerals Management (ADOMM) requesting comments on potential OCS/NASA conflicts in the Sale 92 area.
19 September 1983,	Letter to the Chief, Office of Navigation, U.S. Coast Guard, from the Associate Director for Offshore Minerals Management (ADOMM), requesting comments on potential U.S. Coast Guard/OCS conflicts for Sale 92.
31 January 1984,	Meeting of Director, MMS, and Deputy Under Secretary Horn with Representative Don Young to discuss Sale 92.
7 February 1984,	Meeting of Director, MMS, and Deputy Under Secretary Horn with Senator Stevens and staff from Senator Murkowski's office regarding Sale 92.

Week of 10 February 1984,	Meeting with Assistant Secretary - Land and Minerals Management (AS/LM) with Senator Murkowski regarding Sale 92.
9 March 1984,	Letter to the Governor of Alaska from the Secretary of the Interior in response to the Governor's recommendations concerning the OCS oil and gas leasing program off Alaska. Secretary Clark stated that he would delete the areas in Sale 92 of greatest concern to Alaska in Bristol Bay.
17 May 1984,	Meeting of Director, MMS, and Deputy Under Secretary Horn with staff of Senator Stevens regarding Sale 92.
1 June 1984,	Meeting of Director, MMS, with Senator Stevens regarding Sale 92.
10 July 1984,	Meeting of the Director, MMS, and the Deputy Associate Director for Offshore Leasing with John Katz (Alaska Washington representative) regarding concerns on the North Aleutian Shelf.
31 October 1984,	The Director, MMS, met with officials from the State of Alaska to discuss OCS leasing off Alaska in general.
6 December 1984,	The Director, MMS, met with representatives of the United Fisherman of Alaska to discuss information needs in the Sale 92 area.
14 January 1985,	Sale 92 draft EIS mailed to the Governor of Alaska.

--Notice of Availability of draft EIS published in the Federal Register on 17 January 1985.

--Public hearings on the Sale 92 draft EIS:

19 February 1985,	in Dillingham.
20 February 1985,	in Nakrek.
26 February 1985,	in Anchorage.

Sale 97, Diapir Field
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

19 September 1984,	Letters to the Governor and ten Alaska government agencies and offices requesting resource reports for Sale 97.

--Call for Information and Notice of Intent (NOI) to prepare an environmental impact statement (EIS) published in the Federal Register on 24 September 1984.

24 September 1984,	Letter to the Director for Installations and Facilities, Department of the Navy from the Director, Minerals Management Service (MMS), notifying him of the Call for Information for Sale 97.
27 September 1984,	Letter to Ms. Kay Brown (Director, Division of Oil and Gas, State of Alaska) from the Regional Director (RD), Alaska OCS Region transmitting a copy of the Call for Information and NOI.

27 September 1984,	Letter to Mr. Robert Grogan (Associate Director, Office of Management and Budget, Division of Governmental Coordination) from the Alaska RD transmitting the Call for Information and NOI.
31 October 1984,	The Director, MMS, met with officials from the State of Alaska to discuss Outer Continental Shelf (OCS) leasing off Alaska in general.
14 January 1985,	The Director, MMS, and Alaska RD met with John Katz (Alaska Washington representative) to discuss concerns in the Beaufort Sea.
25 January 1985,	The Deputy Associate Director for Offshore Leasing (DADOL), the Director, MMS, and the Chief, Offshore Environmental Assessment Division (OEAD) met with Chris Patterson (North Slope Borough) to discuss the Sale 97 Area Identification.
31 January 1985,	Letter to the Director, Installation and Facilities, Department of the Navy, from the Director, MMS, notifying him of the Sale 97 Area Identification.
11 February 1985,	Letter to Rear Admiral T. Wojnar, U.S. Coast Guard, from the Associate Director for Offshore Minerals Management, MMS, requesting comments on potential Coast Guard/OCS conflicts within the Sale 97 area.
22 February 1985,	Letter to the Mayor of North Slope Borough from the Alaska RD notifying him of the Sale 97 Area Identification and the reasons for this decision.

Sale 100, Norton Basin
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

14 January 1983,	Letters sent to the Governor and eight Alaska Government agencies and offices from the Regional Director (RD), Alaska OCS Region, requesting resource reports for Sale 100.
20 September 1983,	Letter to Esther Wunnicke (Commissioner, Department of Natural Resouces, State of Alaska) from the Director, Minerals Management Service (MMS) responding to concerns about a causeway along the coast of Alaska and the effect of such causeway construction on the State/Federal submerged lands boundary.
17 November 1983,	Letter to Senator Ted Stevens from the Director, MMS, further explaining potential effects of a proposed causeway along the coast of Alaska and the effect of such causeway construction on the State/Federal submerged lands boundary.
31 October 1984,	The Director, MMS, met with officials from the State of Alaska to discuss Outer Continental Shelf (OCS) leasing off Alaska in general.
28 February 1984,	Letter to the Mayor of Nome from the Deputy Under Secretary of the Interior addressing Nome's concerns about unnecessary and costly delays in the OCS exploration process.

--Call for Information and Notice of Intent (NOI) to Prepare an environmental impact statement (EIS) published in the Federal Register on 5 March 1984.

7 March 1984,	Letter to Mr. Robert Grogan (Associate Director, Office of Management and Budget, Division of Governmental Coordination, State of Alaska) from the Alaska RD, transmitting a copy of the Call for Information and NOI.
9 March 1984,	Letter to Ms. Kay Brown (Director, Division of Oil and Gas, State of Alaska) from the Alaska RD, transmitting a copy of the Call for Information and NOI.
13 March 1984,	Letter to the Deputy Assistant Secretary of the Navy, Installations and Facilities, from the Director, MMS, notifying the Navy of the Call for Information.

--Scoping meetings for Sale 100:

30 April 1984,	in Nome.
1 May 1984,	in Savoonga.
2 May 1984,	in Gambell.
3 May 1984,	in Unalakleet.
14 May 1984,	in Kipnuk.
15 May 1984,	in Toksook Bay.
16 May 1984,	in Hooper Bay.
17 May 1984,	in Emmonak.
26 June 1984,	in Anchorage.
11 July 1984,	in St. Michael.
5 July 1984,	Letter to the Governor of Alaska from the Alaska RD discussing the upcoming Area Identification.
18 September 1984,	Letter to Robert Grogan (Associate Director, Office of Governmental Coordination, State of Alaska) discussing concerns in Norton Sound.
18 July 1984,	Letter to the Director, Installations and Facilities, U.S. Department of the Navy, from the Director, MMS notifying him of the Sale 100 Area Identification and requesting comments concerning potential Navy/OCS conflicts.

Sale 107, Navarin Basin
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

21 June 1983, Letters sent to the Governor and seven Alaska government agencies and offices requesting resource reports for Sale 107.

--Call for Information and Notice of Intent (NOI) to Prepare an environmental impact statement (EIS) published in the Federal Register on April 24, 1984.

17 May 1984, Letter to Director, Installations and Facilities, Department of the Navy from the Director, MMS notifying the Navy of the Call area and requesting any comments or potential Navy/Outer Continental Shelf (OCS) conflicts.

27 April 1984, Letter to Mr. Robert Grogan (Associate Director, Office of Management and Budget, Division of Governmental Coordination, State of Alaska) from the Regional Director (RD), Alaska OCS Region transmitting a copy of the Call for Information and NOI.

27 April 1984, Letter to Ms. Kay Brown (Director, Division of Oil and Gas, State of Alaska) from the Alaska RD transmitting a copy of the Call for Information and NOI.

--Scoping meetings for Sale 107:

30 April 1984, in Nome.

1 May 1984, in Savoonga.

2 May 1984, in Gambell.

3 May 1984, in Unalakleat.

14 May 1984, in Kipuink.

16 May 1984, in Hooper Bay.

17 May 1984, in Emmonak.

12, 13 June 1984, in Unalaska/Dutch Harbor.

26 June 1984, in Anchorage.

6 August 1984, Letter to the Governor of Alaska from the Alaska RD relating the Sale 107 Area Identification and discussing the reasons for the decision.

31 October 1984, The Director, MMS met with officials from the State of Alaska to discuss OCS leasing off Alaska in general.

Sale 109, Barrow Arch
Chronology of Prelease Consultation with the State of Alaska and the U.S. Department of Defense

1 June 1984,	Letters sent to the Governor and ten Alaska government agencies and offices requesting resource reports for Sale 109.
31 October 1984,	The Director, Minerals Management Service met with officials from the State of Alaska to discuss Outer Continental Shelf leasing off Alaska in general.

--Call for Information and Nominations and Notice of Intent (NOI) to Prepare an environmental impact statement (EIS) published in the Federal Register on 28 January 1985.

25 January 1985,	Letter to the Govenor of Alaska from the Regional Director (RD), Alaska OCS Region transmitting a copy of the Call and NOI.
1 February 1985,	Letter to Ms. Kay Brown (Director, Division of Oil and Gas, State of Alaska) from the Alaska RD transmitting the Call and NOI
1 February 1985,	Letter to the Director, Installation and Facilities, Department of the Navy from the Director, MMS transmitting a copy of the Call.

ROYALTY-IN-KIND

Question: Since the independent refiners do not control their own source of crude oil production and have no assured access to real market priced crude oil, isn't it true that the Royalty-In-Kind Program is an important source of crude oil supply to independent refiners?

Are you aware of any support from the independent refiners to phase-out this program?

Is there any particular region where participation includes all eligible companies and that there is a desire to increase participation at this time?

Isn't the need for continuation of this program so vital to the independent refiners that they are even willing to pay an administrative fee to fully cover the costs of running the program?

Did the original Minerals Management Service's budget request for Fiscal Year 1986 to OMB contain the phase-out provision for this program?

Was this provision originated at OMB?

Answer: There are other sources of crude oil available to the small refiners as a class. There is a set-aside provision in the Government sale of Elk Hills crude for small refiners and the provisions of the 1978 Amendments to OCSLA which provides for a 20 percent set-aside of all crude produced from post-1978 leases.

The participating independent refiners who remain in the program are not supportive of the phase-out. However, the number of refiners participating in the program has continued to decrease. In 1980, there were 118 refiners, today the number has dropped to 31. Some of these 31 refiners have indicated that when their current contracts terminate, they will not particpate in future RIK sales.

West Coast refiners seem to be more dependent on the program than refiners in other sections of the country. However, their crude needs could be met from other sources of crude as described above.

The remaining refiners have indicated a willingness to pay an administrative fee.

The original DOI budget submission to OMB proposed funding for continuing the RIK Program. However, the RIK Program takes Federal Government resources needed for other purposes and has generated time-consuming litigation. It is for this reason and those stated above that phaseout of this program is proposed.

QUESTIONS SUBMITTED BY SENATOR MARK ANDREWS

ROYALTY-IN-KIND

Question: What are MMS's plans regarding the Royalty-In-Kind Program?

Answer: The MMS has extended for 6 months those contracts which were due to expire in June 1985, these now are scheduled to terminate in December 1985. In addition, there is a set of contracts due to expire in December 1985 and another set in December 1986. These will be honored until they terminate.

Question: Several independent refiners have told me that discontinuance of this program could cause the demise of refiners who are already experiencing difficult times. They also tell me that they are willing to pay for the cost of administering this program. Has MMS considered imposing an administrative fee per barrel of crude?

Answer: The June contracts which were extended for 6 months include an administrative fee that is deposited in the General Fund of the Treasury.

ROYALTY MANAGEMENT

Question: To arrive at the unit sales price in valuing coal for royalty purposes, MMS considers all reimbursed costs received by a Federal or Indian lessee to be included. Has MMS undertaken a review of this method and are there any changes proposed?

Answer: The practice of including all reimbursables in gross proceeds for purposes of calculating royalties has been an established practice since enactment of the Mineral Leasing Act. The inclusion of reimbursables in gross proceeds has recently been confirmed by the U.S. Supreme Court when it refused to review the lower court decision in the Hoover Bracken Energy case. Reimbursables represent a net increment of between 25-30 percent of gross proceeds, hence, any change in this policy would have a substantial negative impact on royalty revenue.

Question: Does the present method of valuing coal for royalty purposes take into consideration the relatively high costs of lignite mining and reclamation along with its BTU content?

Answer: The relative value of any product for royalty purposes considers its market entry value based on its intrinsic value as a fuel. Processing costs are in part reflected in processing and transportation allowances where the most expensive processes receive a higher allowance as a deduction from the value upon which royalty is calculated. Finally, if a producer is unable to profitably operate a Federal lease, they may apply for a royalty rate reduction to equalize or lower costs.

Question: The present method of valuing coal for royalty purposes includes as reimbursed costs the Federal reclamation tax and severance taxes. How does MMS justify the tax-on-tax situation this method creates?

Answer: The practice of including all reimbursables in gross proceeds for purposes of calculating royalties has been an established practice since enactment of the Mineral Leasing Act. The inclusion of reimbursables in gross proceeds has recently been confirmed by the U.S. Supreme Court when it refused to review the lower court decision in the Hoover Bracken Energy case.

The practice of including tax reimbursables in gross proceeds is consistent with valuation practices used in other industries and in calculating royalties paid to private royalty holders. The underlying economic assumption is that any reimbursable expense is an added increment to value and, therefore, royalty bearing in the same sense as proceeds derived from sale or internal transfer.

QUESTION SUBMITTED BY SENATOR ARLEN SPECTER

OCS INFORMATION PROGRAM

Question: For over 5 years the Minerals Management Service has published an informative series of public information documents known as the OCS Summary Report and the OCS Index series. These are required from the Department under section 26 of the OCS Lands Act Amendments of 1978. Congress has annually allocated funds specifically for this program.

It has been reported that you are making plans to drastically reduce, if not eliminate, these reports altogether. Do you intend to alter this program in any way?

If you are planning to alter the program, how does MMS intend to accomplish its congressionally-mandated responsibilities if it reduces or eliminates the reports?

If you are reducing the program, what does MMS plan to do with the funds?

I understand you may substitute memoranda from the Regional MMS offices in lieu of the current reports. How will these satisfy the information needs of the Governors and citizens of States affected by OCS activity, since section 26 requires informative reports?

Answer: The Minerals Management Service is aware of the requirements of section 26 of the OCSLA, as amended, and has no intention of eliminating those reports required by the Act. MMS has been examining all program areas in an effort to bring about cost savings where possible while maintaining program objectives. In the case of the OCS Information Program, alternate means of preparing these documents are being investigated. Some of the alternatives being examined are: 1) preparation of the documents under contract, 2) preparation of the documents by Minerals Management Service at Headquarters, 3) preparation of the documents by Minerals Management Service in the Regional Offices.

There is no intention of reducing or eliminating these reports. Although the format of presentation of material in the documents is being changed, none of these changes affect the quality or content of the documents, but may reduce preparation and printing costs substantially. Changes in the manner of preparation described above would have the same effect.

There is no proposal to reduce the program in the President's FY 1986 budget.

To this date MMS had never considered a memorandum format as an alternative to satisfy these requirements. The program will continue as required by section 26 of the OCS Lands Act, as amended. The Minerals Management Service is sensitive to the planning information needs of these groups and will continue to provide that information as required by law.

SUBCOMMITTEE RECESS

Senator McClure. With the exception of the other half of the meeting that was canceled because of the schedule on the floor of the Senate, that being the Holocaust Memorial Commission, that will conclude the hearings for this subcommittee on the budget estimates submitted by the President. But we will reschedule that portion of this hearing.

Thank you very much.

[Whereupon at 2:50 p.m., Tuesday, June 4, the subcommittee was recessed, to reconvene at the call of the Chair.]

DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1986

TUESDAY, JULY, 16, 1985

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD–124, Dirksen Senate Office Building, Hon. James A. McClure (chairman) presiding.

Present: Senator McClure.

U.S. HOLOCAUST MEMORIAL COUNCIL

STATEMENT OF MICAH NAFTALIN, ACTING EXECUTIVE DIRECTOR

ACCOMPANIED BY:
- STEPHEN E. LYNCH, SPECIAL ASSISTANT TO THE REGIONAL DIRECTOR, NATIONAL PARK SERVICE, NATIONAL CAPITAL REGION
- GEORGE NOTTER, ARCHITECT, U.S. HOLOCAUST MEMORIAL COUNCIL

PREPARED STATEMENT

Senator MCCLURE. The committee will come to order. First, let me officially and on the record apologize for the difficulty of getting this hearing scheduled, and for my difficulty in being able to keep the schedule when made. I apologize to you for the inconvenience you've had in trying to meet my necessary schedule and for the delays that we have had in this.

I was determined that you are going to have the public opportunity to present your testimony, and I think that's extremely important that that should happen. And I'm delighted we finally have gotten together.

This is the time scheduled to review the fiscal year 1986 budget request for the Holocaust Memorial Council. The fiscal year 1986 request for the Council is $1,950,000. This represents a $40,000 decrease, or 2 percent, from the fiscal year 1985 appropriated level.

Testifying on behalf of the Council today is Mr. Micah H. Naftalin, Acting Executive Director for the U.S. Holocaust Memorial Council. If you would please introduce your associate at the table who may be assisting you this morning, we will then proceed with the questioning. Your first statement will be made a part of the record at this time.

[The statement follows:]

STATEMENT OF MARK E. TALISMAN

Thank you for the opportunity to appear today on behalf of the United States Holocaust Memorial Council of which I am honored to serve as its Vice Chairman. In this connection, I bring you the personal greetings of the Council's Chairman, Elie Wiesel. The Council's FY 1986 request for appropriations can be found at Page I-Y103 in the Appendix to the President's Budget for FY 1986, as supplemented by narrative text and tables previously submitted to the Subcommittee by the Council's staff. As in past years we are ever so appreciative of the support that the Administration has given this Council. As recently as April 19, when President Reagan bestowed the Congressional Gold Medal on our Chairman, he reiterated, "...our pledge was more than "Never again." It was also "Never forget." And we've kept that pledge too. We kept that pledge when we established the Holocaust Memorial Commission and set the cornerstone for its museum."

Mr. Chairman, it is a great pleasure to appear before you today and to have this opportunity to report the substantial progress which has occurred during this past year. Just this past April 18, at a Council Meeting following the National Civic Ceremony held here in the Capital Rotunda, the Council membership approved the architectural concept plan that you see before you today. In the weeks ahead, we will be presenting this concept formally to the Commission of Fine Arts, the National Capital Planning Commission, the National Advisory Council on Historic Preservation and, ultimately, the Secretary of Interior. The reactions of these groups to informal presentations provided in the past month suggest that revisions of these plans, if any, will be modest and well within our capability to meet our statutory deadline for beginning construction or establishing the museum--October 7, 1985.

Just as important as the design concept is the significant progress we have made toward establishing and testing educational tools, identifying archival material and making national and international contacts toward achievement of specific museum/educational goals and objectives. With the help of expert consultants from the United States and abroad: we are developing the final outline of our permanent exhibit design approach; we are completing plans for a prototype demonstration in 1986 of the elements of an international, automated archival system for locating Holocaust materials residing in all the important Holocaust centers, museums and repositories in the world--a badly needed resource for museums and scholars alike; we are developing, with the assistance of the University of Maryland, a novel and exciting approach to museum education involving a computer-assisted, interactive Holocaust encyclopedia; and, we are nearing completion of a demonstration model of a multi-media presentation of a significant Holocaust subject—in this case, the fate of the Riga Ghetto.

With the scheduled beginning of construction, Fiscal Year 1986 will see the culmination of a carefully staged, five-year planning effort to create the United States Holocaust Memorial Museum. By contemporary standards, five years is not a long planning period for a new and important "world class" historical museum and, indeed, planning and realization of the interiors of the museum--especially the exhibitions and the educational content will continue into the out-years while physical construction is underway. In order to keep pace with the construction schedule it is imperative that planning and development of these additional components proceed with equivalent support to the Council in Fiscal Year 1986 and subsequent years.

It will be recalled that in Fiscal Years 1981-83, preliminary planning of the museum took place, with special emphasis on the development of the anticipated major themes. What's more, during that period, the responsible committees of the Council were established, the core professional staff was recruited and put in place, and the Council embarked on its principal ceremonial objectives. In the last respect, the Council sponsored an important International Liberators Conference, held at the Department of State, and has conducted five consecutive national Days of Remembrance ceremonial observances in conjunction with the White House and the Congress. By 1984, with stimulation and encouragement by the Council, Days of Remembrance observances were also held as official events in all 50 states, the District of Columbia, the two territories, in countless cities and towns, on numerous college campuses, and in many churches and synagogues.

During 1985 we launched an extensive effort to expand, publicize and achieve cooperation and scheduling of education programs and/or ceremonies in secondary school libraries throughout the nation. The response to our efforts in terms of requests for informational materials was excellent and commemorative activities throughout the nation's school systems were held in April 1985. Our efforts during the past five years have steadily expanded appropriate ways for the Nation to commemorate the Days of Remembrance consistent with our legislative mandate.

As was forecast last year, Fiscal Year 1985 may be seen as the turning point of our planning effort. During Fiscal Year 1986, both the programmatic and development work will shift dramatically: from architecture to construction, and from the preliminary program planning to detailed planning for exhibitions, acquisition of archives, preservation of archival and curatorial materials, educational content as well as methods for accessing archival and research data and making the contents of the museum's internal archives available to its many publics, ranging from the interested national and international tourist to survivors to liberators to students to highly respected academicians. What's more, substantive historical research will continue with respect to the subject matters to be addressed in the museum's principal exhibit and educational spaces.

The facility to be created near the National Mall will be a unique institution that integrates permanent and temporary exhibitions with archival collections of documents, artifacts, film, and other resources, as well as with educational services for both scholarly research and public education. Once the entire center is operational, it will serve not only hundreds of thousands of annual visitors but also millions of Americans who will benefit from outreach programs in schools, community organizations, and other forums.

During Fiscal Year 1986 the detailed planning which began in 1984, and is being further developed in 1985, must continue to determine the specific configurations of the exhibit, archival and education program components of the facility. Planning to date envisions an interrelated complex consisting of archival and curatorial material as well as audio-visual presentations to display for the public the story of the Holocaust; a national memorial aspect of the facility; and further exhibits, library, archives and computerized facilities available to the general public, educators, students and other academicians to study and research the history of the Holocaust, as well as make available to the educational community access to the materials and collections of other national and international Holocaust Resource Centers.

Hence federal expenditures are essential to continue the detailed planning required to make this a truly national "living memorial." For instance, funds for education development will be applied to the essential planning for four kinds of work: coordination of outreach services (e.g., to inaugurate awareness and training programs in cooperation with national educational associations and with the Department of Education); computer system design (to plan research and basic instruction software and resultant hardware requirements); and media systems design (to include video tape, disc and related technologies). Comparable detailed planning is underway to identify specific exhibit and archival approaches.

Finally, a corollary to these program planning efforts is the responsibility to oversee the work of the architectural and construction firms. Inasmuch as the construction of the building will be funded by the private philanthropy of the American people, it is essential to the public interest that their concerns, desires and visions be protected with the support of a limited Federal full-time staff, members of which will assist the Council to monitor and oversee the project. While the planning through FY 1985 will enable us to be at a point for approval of architectural drawings of the external features of the museum, significant and substantial continuing planning efforts are required to complete the internal design and features of the museum complex.

In Fiscal Year 1986 the planning of museum exhibit content will be sufficiently mature so that the planning of curatorial acquisition can commence. While in prior years expert consultive services had been obtained, Fiscal Year 1986 will see the beginning of recruitment of a small permanent core staff of professionals who will provide continuity and oversight until completion and opening of the museum in calendar year 1989. It is imperative that these professionals work closely with Members of the Council and the architectural and construction contractors to provide detailed space utilization requirements and design objectives.

During FY 1986, the Council and its committees will periodically oversee the final stages of the facility planning. It will oversee the work of the core professional staff and, in turn, that of the contract architects, engineers and designers.

Consistent with its central theme, to remember the six million Jewish victims of the Holocaust and the millions of other who perished at the hands of the Nazis, the museum will be - -

- living institution that will heighten the consciousness of all who enter it;
- an American institution that will engage visitors of all ages and backgrounds;
- a unique institution that will integrate commemoration, remembrance and education, setting new standards of museum quality; and
- a service institution that will provide unprecedented access to Holocaust curricular, teacher training and archival, artifact, video and film resources, using sophisticated technological facilities.

The Days of Remembrance programs continue to be increasingly successful and ubiquitous. As mentioned above, we have reached our goal of full participation in all the 50 state capitals. In FY 1986, we will continue our efforts to maintain this level of participation and to expand the activity into additional cities and college campuses. We see this as an essential activity to broadening the base of knowledgeable and supportive constituents of its future museum memorial.

Our authorizing legislation contemplates that our resources will be augmented from two distinct sources. In the first, other agencies of the Government are authorized to assist the Council on a reimbursable or non-reimbursable basis. We have benefited mightily in both respects from such agencies as the Smithsonian Institution, the National Archives, the Library of Congress, the Department of Justice, the Office of the Secretary of the Interior, the General Services Administration, the Office of Management and Budget, and, of course the National Park Service which provides substantial administrative support to the Council. For FY 1986, we expect this collegial support by sister agencies to continue to expand.

In the second instance, we remain cognizant of our responsibility, under the law, to raise substantial funds in the private sector, especially in respect to the costs of construction for which Federal appropriations are expressly prohibited. By the close of Fiscal Year 1984, our museum plans were sufficiently mature to justify launching our public fundraising effort, "A Campaign to Remember." We are buoyed by President Reagan's decision to serve as the Campaign's Honorary Chairman. Major campaign efforts have begun or are being organized in several cities and regions of the country and important grassroots efforts are being mounted, initially with the cooperation of such national organizations as the AFL-CIO and the National Council of Churches. There are, at present, two principal types of campaign activity in progress. The first is the establishment, in approximately 25 cities, of campaign steering committees. Here we are identifying co-chairmen and 18 additional members, each of whom will pledge $50,000 over a five year period and will recruit at least one additional $50,000 contributor. Hence, our goal for campaign steering committees is $50 million. To date, since Labor Day, we have 13 such steering committees in various stages of formation. From these, so far, we have received $11 million in pledges, with an additional $10 million in sight over the next three months. In this respect, the most advanced steering committees are found in Chicago, Washington, Boston, and Texas.

The second major campaign device is the sponsorship, by the respective Governors, of state-wide, $1,000 per plate dinners or receptions for 1,000 invited contributors. Largely, I might note, through the efforts of Council member Kitty Dukakis, the First Lady of Massachusetts, 27 governors have already agreed to host such events within the coming year. Four have already been scheduled (Massachusetts, Texas, Virginia and Michigan). If only half of the Governors' events are successful, we will have raised an additional $25 million.

In addition, we are now researching approaches to corporations and foundations. Within the year, we hope then to begin a grass roots campaign as well so that we will truly be able to state that this museum was supported by all Americans. Even by the close of Fiscal Year 1985, therefore, we expect to have raised sufficient private funds to assure the entire cost of construction.

Consistent with the President's goals to decrease the Federal deficit, we believe the above outlined activities can be accomplished even with a reduction in our overall funding request by $53,000. This assumes passage of our supplemental pay request of $13,000 for Fiscal Year 1985.

Mr. Chairman, with your permission, I would like to submit for the record, to share with all the American people, the speeches given by the Honorable George Shultz, our Chairman, Elie Wiesel, our Co-Chairman Days of Remembrance, Sigmund Strochlitz, and if I may, my own, that were presented in the Rotunda on April

18. I believe they so appropriately express the value that this project has for all America.

Thank you and the rest of the Committee for your time and consideration of our Fiscal Year 1986 appropriation request.

Biography of Mark E. Talisman

Mr. Talisman was appointed to serve as Vice Chairman on the Council by President Jimmy Carter in 1979. Mr. Talisman, a native of Cleveland and an honors graduate of Harvard College, is currently the Director of the Washington Action Office of the Council of Jewish Federations. He has been a fellow at the John F. Kennedy Institute of Politics and was a founder and instructor of the Institute's program for new Congressmen. He served for 13 years as Administrative Assistant to Congressman Charles Vanik of Ohio.

Mr. Talisman is a member of the National Jewish Welfare Board, the Overseers of Case Western Reserve University and of the John F. Kennedy Institute of Politics, Harvard University.

Biography of Micah H. Naftalin

Mr. Naftalin, a native of Chevy Chase, Maryland, was appointed to serve as Senior Deputy Director for the Council in September of 1982. Prior to his leadership role in the Council, he was previously Executive Director with the National Academy of Sciences for 11 years. His earlier career included private law practice, Legislative Liaison Officer with the Department of Labor, Chief Counsel for the Select Committee on Government Research, U.S. House of Representatives and Legislative Assistant to Honorable Carl Elliott.

Mr. Naftalin received a Bachelors Degree from Brandeis University and a Juris Doctor from the George Washington University. He is a member of the Maryland and the District of Columbia Bar, the American Association for the Advancement of Science and has served as a lecturer at Kings Point Civil Service Management School.

Biography of Stephen E. Lynch

Mr. Lynch, a native of Alexandria, Indiana, has served in a variety of administrative positions with the National Park Service for the past 15 years. He was appointed to his current position as administrative liaison to the Holocaust Council in January 1983 and prior to that he had served as Personnel Officer for National Capital Region. He has served on task forces related to the Civil Service Reform Act and President Carter's OMB Reorganization Plan. Mr. Lynch received his Bachelor's Degree from Purdue University and his Master's in Public Administration from the George Washington University. He is a member of the International Personnel Management Association, previously serving as the D.C. Chapter President, and a member of Sigma Delta chi Professional Journalistic Society.

Biography of George Notter

Mr. Notter has been associated with the nationally recognized architectural firm of Notter, Finegold and Alexander since 1965. Mr. Notter, a native of Florida and an honors graduate from Harvard University is the immediate past president of the American Institute of Architects. He has held numerous leadership positions at the Regional and local level of several professional architect's associations. Mr. Notter and members of his firm have been associated with the Council in concept planning since 1982.

National Day of Remembrance
Ceremony in the
Rotunda

The United States Capitol Building
April 18, 1985
by

The Honorable George P. Shultz
Secretary of State

As the 40th anniversary of the Allied victory in Europe draws near, we in America remember not only the triumph of our soldiers and the peace-loving nations of the world, but the rescue of the Jewish people from the Nazi evil.

Every year thousands of Americans visit the memorial to the victims of the Holocaust at Yad Vashem. I myself will be going there next month. The images of Jewish suffering at Nazi hands still burn in our memories. We will never forget, and the world must never forget, the inhumanity of which mankind is capable when it disregards the sanctity, the dignity, and the human rights of all men and women. Our nation shared the grief of those who had survived the concentration camps. We mourned for those who had not. And we made one very simple pledge: Never again.

Today we are assembled to pay tribute to the American soldiers who liberated the prisoners of Nazi concentration camps toward the end of the Second World War. Nothing we say here can have much significance compared with the noble and selfless act of those American liberators. When those soldiers walked into the camps and saw the horrors wrought by Nazi fanaticism, they recognized at once the enormity of the evil they had just conquered. And they forced the world to recognize it, as well.

Never has civilization been confronted by such an unmitigated, monstrous evil as Hitler's Nazism. Never have the will and strength of the democracies been so severely challenged. Never has one people been singled out for such grievous suffering at the hands of their fellow human beings.

The rise of Nazism, and most particularly, the ruthless murder of six million Jews, together dealt an almost devastating blow to all our most fundamental hopes for the modern world. Those who prior to the war had maintained their faith in the possibility of human progress, in the idea that with high culture and high civilization would come the end of man's inhumanity to man, those who had envisioned the day when respect for the dignity, the sanctity, and the human rights of every individual on earth would be universal — all of us who shared these dreams were stunned by the Holocaust. We castigated ourselves for the world's collective failure to stop it sooner. And after the war, after the concentration camps had been liberated and the bodies of the dead had been buried, we all promised ourselves for the world's collective failure to stop it sooner. And after the war, after the concentration camps had been liberated and the bodies of the dead had been buried, we all promised ourselves that next time it would be different. Never again would we allow a monstrous evil to go unchallenged. Never again would we appease the aggressor. Never again would we lose sight of the fundamental moral principles upon which our free society depends.

The men who liberated the camps in a sense liberated the world, as well. They put an end to the physical tragedy, though they could not put an end to the spiritual anguish. We will never forget the atrocities committed by Hitler, and we will continue to pursue the criminals who carried out his awful designs. We will bring them to justice no matter how long it takes.

But the Americans who liberated the camps four decades ago also gave us hope. They made it possible for us to look forward, to start again, to begin to restore our faith in the possibility of a better world, even while the memories of the recent horrors lived on. They offered a new chance for all peoples in all nations to join together in defense of humanity. These brave men showed that the evil ever-present in mankind can be confronted and eventually defeated by an even more powerful devotion to justice and the will to sacrifice for a greater good.

We must never forget that lesson.

The principles that the rescuers upheld, and for which many gave their lives, continue to animate heroic idealists of our own day, whose consciences will not permit them to acquiesce in injustice. It is the principle summed up by one of the spiritual mentors of the American Revolution, Edmund Burke, when he said: "The only thing necessary for the triumph of evil is for good men to do nothing."

When Andrei Sakharov denounces the systematic denial of human rights by Soviet totalitarianism, and exchanges a position of honor and comfort in the Soviet elite for a life of persecution and exile, he honors the example and the memory of those who have fought tyranny and liberated the oppressed. So do the brave individuals administering the funds provided by Alexander Solzhenitsyn to aid the families of Soviet dissidents. And Anatoly Shcharansky's courageous stand against the Soviet police state is a testament to the human will. He not only endures, he prevails through his example to others.

We have seen the spirit of the rescuers in the mothers of Buenos Aires' Plaza de Mayo, who protested the disappearance of their children week after week, year after year — even after some of their own numbers "disappeared" — until democracy was reborn in Argentina. And that spirit lives on today in the acts of those courageous South Africans, of all races, who have sacrificed — sometimes their privilege, sometimes their lives — to protect and expose the cruelties of apartheid.

Thank God most Americans have never had to face choices like this, but a few of us have. One who did was an American officer who was captured during the Vietnam war and survived an 8-year ordeal in a North Vietnamese POW camp. As Admiral James Stockdale put it:

From this eight-year experience I distilled one all-purpose idea .... It is a simple idea. An idea as old as the Scriptures, an idea that naturally and spontaneously comes to men under pressure. That idea is, you are your brother's keeper.

The magnitude of these injustices, I repeat, is not the same. They cannot be equated with Nazi genocide, which was unique in the annals of human depravity.

But the principle applies universally: We are our brother's keeper. We must never turn a blind eye to the sufferings inflicted around the world. We must always draw strength and inspiration from the courage and altruism of the rescuers.

And we must never delude ourselves. Mankind's capacity for evil did not die in the bunker with Hitler. We see evil in the world all around us, in efforts to impose totalitarian authority on unwilling peoples, in efforts to subjugate, suppress, and sometimes vanquish entire races, classes, and religions.

The legacy of the rescuers admonishes us all to stand up and fight back.

The memory of the American liberators will live on forever, as will the memory of the evil they put an end to. We can only be thankful, and proud, that Americans were willing to make the ultimate sacrifice to defend freedom and the rights of mankind. May we always have the courage, and the vision, to meet such challenges. Only then can the better world we all seek become a reality.

National Day of Remembrance
Ceremony in the
Rotunda

The United States Capitol Building
April 18, 1985
by

Honorable Elie Wiesel
Chairman, United States Holocaust Memorial Council

Secretary Shultz, Secretary Marsh, Secretary Hodel, very distinguished members of the Senate, very distinguished members of the House. My friends, members of the Holocaust Memorial Council, Advisory Boards, children of survivors, fellow survivors and friends.

Forty years after the event that remains a watershed in recorded history, let us remember this awesome legacy. Let us remember the hundreds and hundreds of communities, erected with fervor, and destroyed by fire.

Let us remember the sages and their disciples, the merchants and their customers, the brothers and their friends, and the brothers who had no friends. Let us remember the victims and those that tried to help them, the righteous Gentiles, who memory will forever remain in our own.

The members of the resistance movements, all over occupied Europe, who, with courage, generosity and self-sacrifice, tried to defeat and then managed to defeat Nazi Germany.

Let us remember all of the freedom fighters, all of those who suffered, and resisted suffering in the most humane way. Let us remember those of the Jewish people who took up arms and fought, and those who chose to die with prayer or even resignation.

And those who chose to live, but were killed, all of the same. Let us remember those who were tormented by the SS executioners, and those who were persecuted by their accomplices.

Let us remember those who had faith in humankind, but also those who lost it. Let us remember them all. for all shared the same faith.

All were condemned for belonging to an ancient people, whose forefathers had stood at Sinai and received the eternal commandment, "Those shall not kill." Old and young; rich and poor; beggars and princes; visionaries and those who listened to them — all were marked.

All were singled out. All were hunted down, and remember: the heroes perish as victims, and the victims as heroes. They shared one dominant obsession: to be remembered.

The enemy sought to destroy their memory. The enemy killed them twice, the second time, by burning their cultures, dispersing their ashes, so that not a trace of their beings remained.

Let us remember them, friends, for they had no friends. Forty years later, we know what they, then, could not know: that they were alone; outside of society, outside of civilization, expelled from time.

Forgotten by humankind. Forsaken by the Almighty Himself. They despaired alone; fought alone; died alone. Alone, they faced mighty legions among the mightiest in Europe.

Let us remember April 18, 1943, when, in the Warsaw Ghetto, the youngest of the young, and the bravest of the brave Jews remained, after 500,000 had already been destroyed. And they prepared themselves to fight the onslaught of the German tanks, aircraft, and armor.

They pleaded for help, and no help came. Why was so little done to help them? Why was so little done to save human lives, Jewish lives?

Why weren't the railways leading to Auschwitz bombed? Why didn't the advancing armies alter plans and liberate the camps one day earlier?

And Secretary Marsh, I would like you to know how grateful we are for the flags that you have entrusted onto us. We shall keep them in our museum, and we shall look at them with pride.

For, each time we see an American flag, it is with pride that we look at them. I was liberated by the American army in Buchenwald.

And since then, when I think of the American Army, it is always a sentiment of gratefulness, joy, that I am overcome with. But then, when the American Army with its allies courageously fought the Fascist universe, somehow, the Jewish war, the Jewish agony, Jewish deaths were forgotten.

But, let us be fair, my friends. Our criticism of our own governments then is not directed only at them, alone. What about the Russian Army?

The Russian Army was closer to Auschwitz than the American Army. They could have sent airplanes. They could have advanced the troops. And why were they silent?

The question is more relevant today because of what the Russians are doing today. Secretary Shultz, you who deal with them — surely, you know that their propaganda lately has become worse than ever.

Whereas, our people, our nation and other western nations are now endeavoring to serve the noble cause of memory, the Russian regime is still, today, guilty of distorting it.

In the monument of Auschwitz, the largest killing cente of European Jews, the word "Jew" hardly appears. In Buchenwald, it is altogether eliminated.

Thus, the memory of the valiant American soldiers, too, wouldn't be part of Buchenwald's history. Shame on Moscow!

Shame on the Communist rulers of East Germany! Shame on them! For, they twist and distort and falsify history, and honor to you, distinguished representatives of the American people.

In saluting these flags, Secretary Marsh, we proclaim our belief that evil must and can be defeated. In our celebration of American victory, of Allied victory, we do not seek revenge or humiliation, just as forty years ago, we did not seek revenge against the fathers.

So, today, we do not seek humiliation of their sons and daughters. We do want reconciliation with all people.

But we want a commitment to memory, and a true reconciliation based on truth. Mr. Secretary, we have not learned much — surely, not enough of the lessons to be drawn from the Holocaust experience.

But, we do know that one of them is: not to humiliate anyone. And we haven't thought to humiliate anyone.

We also know that one other lesson is: to enlarge the scope and the intensity of human brotherhood. And so, we look with understanding upon our government's efforts to deal delicately with German sensibilities.

May I speak frankly? Today, we must speak the truth. What about American sensibilities? Why is that not a factor in the high level decision process?

Did no one consider the pain and the shame, some, if not most Americans would feel upon learning that a President of the United States for whom we have genuine affection and admiration plans to visit a cemetery in which there are a good number of SS graves?

Have our policy planners, Mr. Secretary, forgotten what "SS" stands for? Auschwitz was conceived, structured, elaborated, perfected, built, organized and implemented by the SS.

They were the killers of Jews, primarily, but not only of Jews. They butchered Poles and Czechs, French and Dutch, Norwegians and Danes, Yugoslavs, Ukranians, Greeks, Gypsies and Gays.

Auschwitz was a universe, and the SS were its gods. Why, then, should anyone visit, and by doing so, honor their cemetery, as though they had been nothing but patriotic soldiers who dies for their Fatherland?

We do not believe in collective guilt. Nor, do we believe in collective responsibility. But, have you forgotten that those SS units were a part of the troops that launched the Battle of the Bulge?

That they infiltrated American lines, wearing American uniforms? That they slaughtered defenseless American war prisoners at Malmedy?

Why did no one at a decision-making level think about all of those Americans who lost a son, a father, a brother — how they might feel, as they watched our leader, our esteemed and respected and beloved leader visit such a cemetery?

Mr. Secretary, we do not seek a contest with the President of the United States. There is no contest between us and him.

There is a contest between all of us and the SS. And therefore, Mr. Secretary, I plead to you, be our emissary.

Tell those who need to know that our pain is genuine, our outrage deep, and our perplexity infinite. I speak frankly because, in this hall, in your midst, we feel strengthened.

Your commitment to justice, members of the Senate and the House, equals ours to memory. Thanks to you, we are given to believe that what happened once will not happen again.

Laws will not be distorted again, nor will man's vision of his own power on earth against one another. These ceremonies mean much to us.

And we thank you for enabling us to observe them together with you. During a few moments, we survivors participate in something intimate and awesome. And we are grateful to you for sharing them with us.

For us to remember, means to remain vulnerable. We see what you will never see: lines of shadows forming, nightly processions under distant, tormented skies, drawn by mysterious sounds to eerie encounters with death and eternity.

We discern some faces. We gather some fears, some words, some sighs, and make them our own. Do they hurt? They do. But, why shouldn't they?

Memories of fear and silence, words of solitude and melancholy, eyes filled with terror and despair — they represent our legacy. What will happen to our legacy?

Who will receive it? By what means will it be communicated, and to whom, and for what purpose? An agonizing image, and anguished words? How are we to tell a story that cannot but must be told?

Somewhere, in eastern Europe, in places called Treblinka and Majdanek, Belzec, and Auschwitz, hundreds and hundreds, thousands and thousands of human beings are being led into modern, scientific death factories.

With pictures and some words, we may follow them to the gate, but not beyond. What is awaiting them inside is so terrifyingly simple and so heartbreakingly human, that one has no right and no power to describe it.

And yet — and yet, my friends, we want everyone to know. We want you, so much, to know! For, we invoke the past for the sake of the future, not to dwell on our pain.

We remember what has been done to the victims, not to spite the world, but to enlighten it, to enrich it. And why not — to save it! My friends, if we forget, we, too, will be forgotten.

But, if we remember, we, too, will be remembered.

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April 18, 1985
by

Honorable Sigmund Strochlitz
Co-Chairman, Days of Remembrance
United States Holocaust Memorial Council

Secretary Shultz, Secretary Marsh, Secretary Hodel, Mr. Chairman, Professor Wiesel, members of Congress and distinguished guests. 1985 marks 40 years since the remnants of once-flourishing Jewish communities in Europe have been liberated; a nightmare that lasted 6 long years came to an end and today, 40 years later in that hall of freedom and democracy, let's remember together that an entire nation, the Jewish people, were handed over to a government of murders, trained just to kill, to kill men and women, old and young, healthy and sick, were received by the agencies of the state and brought to death camps to be killed in slaughter houses, constructed by architects and operated by highly educated people, all of them involved in killing for killing's sake. We were killed for one reason only, because we were born into the Jewish faith. Selling ourselves into slavery, in order to save one's life, was of no use. We were condemned to die; there was no judge to whom to appeal, no government from which to ask protection; and very seldom, very seldom, did we find a neighbor on whose gates we could knock and ask for shelter. There was no God to whom to pray for mercy.

Some of us survived the ordeal, did not become bitter vengeful, hateful or angry. We did not give up on God and we did not give up on man and yet, there is a blemish on creation. The blemish may lie dormant; who knows when it might erupt? It could and it will erupt if the world will find it convenient to forget what happened in Nazi Europe. Forgetting is encouraging a repetition of those monstrous crimes. It is therefore encouraging that the United States Congress, by passing Public Law 96-388, establishing the United States Holocaust Memorial Council, has clearly and loudly proclaimed: we will not let the world forget; we are committed to memory.

The American nation responded to the call of its representatives in ceremonies remembering the 6 million Jews that perished in the Holocaust and the millions of gypsies destined for annihilation and others killed and enslaved by the Nazis are taking place every year in all the 50 states of the Union. Memory is now law and memory, as history has taught us, is indispensible to freedom.

Permit me also to point out today that while the extermination of European Jewry during World War II was a carefully guarded secret, the tragedy became to some extent thanks to the activities of our Chairman, Professor Elie Wiesel, and the establishment of the United States Holocaust Memorial Council, the most familiar event of that terrible conflict. Historians, social scientists, theologians, psychologists, and the public at large, are all seeking now to unravel the mystery of the event and the meaning and its lessons for the future.

Yet, there is among us — there is among all of us a feeling of sadness and even disbelief, as we follow the statements made lately by different officials and the tendency to gloss over past Nazi atrocities for fear of offending German allies. Those statements are not only an affront to the memory of the victims of the Holocaust and an insult to the survivors, but are aiding the cause of those who are attempting to deny that the Holocaust ever took place.

It seems to me that we are more interested in the perpetrators of the crime during the Second World War than in its victims. It is true that a great deal has changed in the past four decades, but the realignment of political forces cannot and should not block out the horrors of World War II; least of all, should it erase the due responsibility for the most unspeakable crimes of all: the nearly successful attempt to wipe the Jewish people off the face of the earth. And furthermore, how can we forget the massacre of American prisoners of war at Mamedy?

No one disputes that since the end of the war, Germany has become a strong force in the western world, building a society based on democratic principles, and yet it is wrong to proclaim that we are awakening their memories and reminding them that they, their parents, their grandparents, what was done is a wholesale indictment of present day West Germany. It would have been seen more as a refusal of freedom loving people to accept that there are more lessons to be learned from the greatest tragedy in the history of humankind.

On behalf of the United States Holocaust Memorial Council, the Days of Remembrance Committee, thank you for joining our national commemoration. Your presence lends respect and honor to this historic occasion. Thank you.

MR. TALISMAN: Ten of the members of the United States Holocaust Memorial Council are themselves distinguished members of the House and the Senate. I wish to call their names out in this hall so all of you who are not familiar with these distinguished public servants may now be so: The Honorable Paula Hawkins, Florida; The Honorable Robert Caston, Wisconsin; The Honorable Frank Laudenberg, New Jersey; The Honorable Mack Maddeningly of Georgia; and The Honorable Claiborne Pell, Rhode Island; for the House, The Honorable Robert Garcia, New York; The Honorable S. William Greene, New York; The Honorable William Layman, Florida; The Honorable Sydney R. Yates, Illinois, and at this time, it is my distinct pleasure to call upon the sixth member of the House delegation, The Honorable Steven J. Solarz, Member of Congress, of New York, and distinguished member, United States Holocaust

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The Honorable Mark E. Talisman
Vice-Chairman, United States Holocaust Memorial Council

There is so very much to talk of with so little time in which to talk.

Today we gather in this hallowed hall of government of our great democracy to remember. In places far and near throughout this great land, similar gatherings are taking place this week. In town halls, in churches, synagogues, meeting places of all kinds, citizens and their leaders clasp hands to remember, never to forget the horrors which were legislated into existence which condoned the murder of millions of Jews, only because of who they were. Gypsies, and others were gathered into the fires because of who they were. And the world was silent as these crimes of cataclysmic proportions were endlessly perpetrated over twelve long years.

It was forty years ago. Only forty years ago, which, through tunnels of time, are eons for some, and only yesterday for others.

Fifty years ago this year, the Nuremburg Laws were promulgated, signalling the pathway on which the Nazis would travel to decimate a people and wreck havoc among millions of others. After all, everything that was done never broke any law, after the Nuremburg Laws.

The only true laws which were shattered were the unalterable laws of human conduct. Unprecedented crimes against all of humanity had been perpetrated.

The Waffen S. S. are exemplary of the criminal system which was carefully crafted to implement the demonism of Hitler and his supporters and sycophants. It is unthinkable to pay homage in any way to these criminals even in death. They must somehow find their recompense through authorities higher than we mere mortals or our governments. They were and remain the very antithesis of everything that is decent or good on this earth and can never be rehabilitated or forgiven.

Our American troops, joined by the Allied forces, opened the very gates of Hell forty years ago. Some in this room were with the Allies and others among us were the liberated. Together, the Liberated and the Liberators have become our teachers, our ministers, our rabbis, telling us the truths of what happened. For their willingness, we are grateful.

What we are learning forty years later, we should have known at that time and before. Instead, the world lay silent, comatose, somnolent—hibernating, then awakening only recently to the horrible truths of what had occured. Some have believed that deep sleep would expiate—avoiding confrontation with the reality of what had happened as good people remained silent.

After all, sleep absolves, it refreshes.

Yet, as these years have passed, sleep has in some been transformed into amnesia. In others, it has become revisionism of history. In still others, worst of all, forgetfulness altogether. As my colleague, Elie Wiesel has rightly said--forgetfulness is as if we are killing once again those who have been murdered already.

Now we are privileged to meet in this center of our Democracy, in our blessed nation, joined by millions of our fellow citizens everywhere, in the reverence of remembrance, in the harmony of our voices rising together exclaiming in unison that the tragedies which befell so many millions will never be allowed to happen to anyone every again.

Irma Lauscher, the last surviving teacher of the children of Terezin, the concentration camp, was given a small oak seedling by a kindly Czech guard in the Spring of 1943. She and her children planted that seedling and nurtured it. Each succeeding group of children cared for it. Fifteen thousand children went in and only 94 survived.

Forty years ago next month, that tree was carefully transplanted by the surviving children and Mrs. Lauscher among the ashes next to the crematorium. They placed an inscription from the Bible at its base, "As the branches of this tree, so the branches of our People."

This tree is now sixty feet high and thirty feet across.

Mrs. Lauscher and I ask each of you to plant a tree to remember the children who perished. Our flower. So that our children and theirs will never ever forget.

INTRODUCTION OF ASSOCIATES

Mr. NAFTALIN. Thank you, Mr. Chairman. I am joined today by one, and, hopefully, before too long, two colleagues. Steve Lynch is at my side. He's the Special Assistant to the Regional Director of the National Park Service, and works with us on a full-time basis. George Notter is the distinguished head of the architectural firm, Notter, Finegold & Alexander, that has been associated with us in the development of this project for several years.

Mr. Notter is the immediate past president of the American Institute of Architecture, and is somewhere between Boston and here, hopefully, between National Airport and here, and should be here at any moment. We have brought the latest model of the building, and I am prepared to walk you through that if necessary, but I'm hoping Mr. Notter will be able to do that personally.

Thank you very much for this opportunity to appear today on behalf of the Council, Mr. Chairman, of which I am honored to serve as the Acting Executive Director. I do bring the personal greeting of our Chairman and Vice Chairman, Prof. Elie Wiesel and Mark Talisman. Mr. Talisman also sends his personal regrets that of all days, this day presented an unavoidable schedule conflict, taking him out of town. Otherwise, he, of course, would have been here today.

And we appreciate very much your kind remarks at the beginning. I appreciate the fact that you have ordered that Mark's full testimony will be inserted in the record. I am prepared to summarize that testimony or go directly to questions, if you prefer.

Senator MCCLURE. Let's go directly to questions, if we may. We use our time best in that manner.

STATUS OF MUSEUM DESIGN APPROVAL

During your fiscal year 1986 budget hearing before the House Interior Appropriations Subcommittee, you unveiled a preliminary design for the U.S. Holocaust Memorial Museum. Response to this design has been mixed and earlier this year, the Commission on Fine Arts expressed reservations about the design and requested revisions.

Can you describe the current status of the plans for the building and the exhibit?

Mr. NAFTALIN. Yes, sir; I'll be glad to. May I just say that Mr. Notter now has arrived?

Senator MCCLURE. Welcome, Mr. Notter. If you'll come forward and take a seat at the table, we're glad to see you here.

Mr. NAFTALIN. We, Mr. Chairman, were deeply appreciative of the comments offered by the Commission on Fine Arts as well as earlier comments received from the National Capital Planning Commission, and overall, as you will see later at your convenience during the hearing, we have accepted their recommendations and concerns and have revised the design in significant ways.

Senator MCCLURE. Do you anticipate any further shift in the designs or the plans in fiscal year 1986?

Mr. NAFTALIN. Let me answer that this way. Since we fully anticipate having the basic design approved by the end of this fiscal year, during fiscal 1986, our building planning and design efforts will emphasize essentially fine-tuning and development of final construction documents for those aspects of construction that have not already begun in the initial stages.

And the major emphasis in 1986 will turn to the development of the internal exhibit design concept requirements, and so forth.

Senator MCCLURE. The authorizing legislation creating the Holocaust Memorial Council stipulates:

> That the authority conferred pursuant to the act for the construction and operation of the memorial museum shall lapse on the date 5 years after the date of enactment of this act unless, one, the erection or establishment of such memorial is commenced within the 5-year period; and, two, prior to the commencement, the Secretary of the Interior certifies that funds are available in an amount sufficient in the judgment of the Secretary to ensure completion of the memorial museum.

Since the 5-year goal is October 7 of this year, can you give me an indication of your progress in meeting those requirements?

Mr. NAFTALIN. Yes, sir; with respect to the design of the building, we are right on schedule. We have had subsequent continuing meetings with both the National Capital Planning Council and the Fine Arts Commission, which are, as you know, under the law, the agencies designated for the Secretary to consult with before making his own decision with respect to design.

We have received and the Secretary has received the written recommendations that are essentially positive from NCPC. We expect good marks from the Fine Arts Commission at any moment, and we will be bringing the design to the Secretary probably in August, well in time for him to make his decisions with respect to the approval of the design.

With respect to the fundraising obligation of the statute, as it happens, just yesterday, I spent about an hour with the Acting Solicitor of the Interior to discuss precisely the extent of the proof that the Secretary will require for our documentation of our funding progress. And we have set a preliminary kind of tentative date of submitting our evidence with respect to fundraising on or about September 9, which will give the Secretary adequate time to review that.

We expect our showing to be well within the intent of the Congress and the statute. Our fundraising campaign has taken off beautifully in this past year and we feel very confident about it.

Senator MCCLURE. I guess, really, the kind of bottom line of my question is: Are you going to be able to meet those dates satisfactorily, or are you going to need a statutory extension?

AUGMENTED RESOURCES

Mr. NAFTALIN. No, sir; we believe we will meet them.

Senator MCCLURE. Your authorizing legislation contemplates that your resources will be augmented from two sources. In the first, other agencies of the Government are authorized to assist the Council on a reimbursable or nonreimbursable basis.

Can you provide me with a breakdown of which Government agency or agencies have helped you? And how much has been on a reimbursable or on a nonreimbursable basis?

Mr. NAFTALIN. I'll be glad to, Mr. Chairman. Of course, we have a continuing reimbursable arrangement with Jack Fish and his colleagues at the National Capital region of the National Park Service, including Mr. Lynch, who is at my side today, for a total administrative support from that organization.

As you can see from our budget request, we programmed 10 percent of our current year appropriation. We also get a lot of tender-loving care from the Interior Department headquarters, the Secretary's Office—Secretary Hodel; Executive Assistant, Don Pearlman; and from the Solicitor's Office. And, of course, this is all on a nonreimbursable basis.

We had superb support and assistance this year from the State Department, especially the Office of the Assistant Secretary for Human Rights, Elliot Abrams, in planning and conducting our international conference last September on the righteous gentiles, and they are reimbursed for the actual facility and equipment and expenses only, but not for the advice and coordination received from many of their staff, and the Assistant Secretary himself.

In addition, we have had exceedingly meaningful nonreimbursable advice this year from the Smithsonian, the GSA, the National Archives. We have also had very helpful preconstruction planning relations with our two immediate neighbors on 15th Street, the Department of Agriculture and the Bureau of Engraving.

Now, did you ask me about the private?

Senator McCLURE. I'm about to though. I was trying to separate those public agencies and whether they are reimbursable or nonreimbursable sources.

Mr. NAFTALIN. That would complete my answer with respect to the Government agencies.

Senator McCLURE. There have been no other Government agencies who have given you support which they expect to be reimbursable?

Mr. NAFTALIN. No, sir.

Senator McCLURE. Whatever assistance you have referred to is the extent of the assistance you have received and that is all nonreimbursable?

Mr. NAFTALIN. All nonreimbursable with the exception of our arrangement with the Park Service, which I described at the beginning of my answer.

Senator McCLURE. The second source of your resources come from the private sector. Federal appropriations are expressly prohibited for the costs of construction. Construction of the building will be funded by the private philanthropy of the American people. Your justification indicates that you plan to have raised sufficient private funds to assure the entire cost of construction by the end of fiscal year 1985.

How much have you raised in fiscal year 1985, and what is your fundraising schedule for the rest of this fiscal year?

Mr. NAFTALIN. Well, Mr. Chairman, we launched our formal capital campaign last September. And, to date, essentially, effective late June, we have raised in firm pledges and cash nearly $14 million. And there is an additional $12 million approximately already in the pipeline as a result of meetings around the country already scheduled but not yet held. And also, to some extent, some pledges that are made but not yet signed, sealed, and delivered.

In all, we expect to raise by October 1, somewhere in the $30 to $35 million range, which will be in excess of the estimated construction costs of the museum.

Senator MCCLURE. I don't mean to sound cynical but how much of the $14 million already is cash, and how much is pledges?

Mr. NAFTALIN. The pledges in general are spread over a number of years and are targeted, to a great extent, to our cash-flow needs. The amount of actual cash in hand would be difficult for me to tell you. But we have probably received in cash somewhere on the order of $1 million.

Senator MCCLURE. The bulk of it is in pledges for payment in the future?

Mr. NAFTALIN. The bulk of it is pledges for payment in the future, but much of that future is the next few months. And, of course, our major construction costs do not begin until next spring.

Senator MCCLURE. And I don't want anybody to understand that remark that I made earlier, or the question, as anything less than an attempt to get information. I happen to have helped raise money to build a church once. And I recognize that there's sometimes a difference between cash and a pledge. Sometimes, the pledge is not fully paid, in spite of the fact that people, in good faith, intended at the time they made the pledge that they should do so.

Mr. NAFTALIN. It's not an inappropriate question at all, Mr. Chairman. In fact, that was almost exclusively the issue that I was discussing with the Acting Solicitor yesterday, because that is the issue that we have to make a full and complete justification to the Secretary on.

That is not a hypothetical issue that you are raising at all.

Senator MCCLURE. I'm sure you're no more anxious to get in the middle of construction without adequate money than anyone else is.

Mr. NAFTALIN. You can be certain of that, sir.

DAYS OF REMEMBRANCE

Senator MCCLURE. During 1985, you began what you describe as an extensive effort to expand, publicize, and achieve cooperation and scheduling in education programs in secondary school libraries throughout the Nation.

How successful has that effort been?

Mr. NAFTALIN. We feel that has really been extraordinarily successful. This year, we had a wonderful response from all over the country. In the winter and spring, we sent notices and announcements, for instance, to approximately 60,000 college and public school libraries. And, clearly, that material alone could have been adequately and undoubtedly was well used. But, in addition, more than 5,000 of those institutions responded with requests for additional information.

DIFFERENCES FROM OTHER MUSEUMS

Senator McClure. A few months ago, a Holocaust Memorial Center opened in Detroit. And another museum is planned in New York. How will the Washington facility differ from either one of those?

Mr. Naftalin. It will differ in a number of ways. First of all, I think it's important to distinguish that those institutions, to the extent that I know about them—and I do not pretend to be an expert on either of them—are primarily outgrowths of the initiative of the Jewish community in those cities.

The assumption is, as I understand it, that they will be primarily and appropriately Jewish institutions. And, of course, the contribution of the Jewish communities in those areas to the broader community which they serve; whereas, as you know, our institution is a national institution and a public and a Federal institution. Obviously, it will be a Government museum and will be not only for Jews but will include broader areas than exclusively the Jewish element of the Holocaust period, as overwhelmingly important as that element is.

Those are probably the primary philosophical differences, if you will. But, then, in addition, there is to some extent the difference in one respect in a major national and international institution as distinguished from a local or regional one. We expect it to have ongoing—first of all, we expect an enormous amount of collaboration with the national institutions, such as the Library of Congress and the National Archives.

But, more than that, we expect major international connections, particularly in the Archives area, with institutions throughout the world.

So I think it's a matter of scale. I would add only one point further, and that is that the New York institution is not exclusively a Holocaust institution. They intend, for instance, to have a major element of their museum related to the Jewish immigration experience in this country, which would be a kind of connection to the Ellis Island, Statue of Liberty activity across the water; because they are planning to build, as I understand most recently, build it in the Battery Park area, right across from Ellis Island.

Senator McClure. But it would focus on the Jewish people as a people rather than the Holocaust as an event?

Mr. Naftalin. That's right. I have no doubt that the Holocaust will be a core part of the experience at their museum, but there will be other issues as well.

Senator McClure. Since opening 7 months ago, the museum in Detroit has average 14,000 visitors a month.

How many visitors do you anticipate the Washington museum will draw?

Mr. Naftalin. We have not made a very organized study prediction of that, Mr. Chairman, but we have made rough estimates, based on the visitor traffic in this city, especially the visitor traffic in our block in which, for instance, the tourmobiles stop next door at the Bureau of Engraving. That is the highest occupancy stop in the city, and we're kind of right between the Bureau of Engraving and the Space Museum, which is the biggest visitor attraction in the city.

We're assuming, and of course, we have an international visitor audience, as well as a national, and Washington is the site for school visits every spring, and so forth, we are assuming on the order of in excess of 1 million a year. We think that is a conservative estimate. Some have said as high as 2 or 3 million.

Am I right, George?

Mr. NOTTER. Right.

Mr. NAFTALIN. We intend in the next year to do some more systematic studies to get a better feel for that.

Senator MCCLURE. It is my understanding that both the Detroit and New York museums will be built wholly with private donations. Do you feel that there will be enough private contributions to build three such museums?

Mr. NAFTALIN. Yes, sir, without question. You should be aware that, of course, Detroit is finished, essentially. That museum opened in the fall, and incidentally, I understand there was a wonderful article about it in the Wall Street Journal over the weekend. I haven't seen it yet.

Also, of course, we are drawing from a much broader American community. Those institutions are drawing almost exclusively from Jewish philanthropy.

NATIONAL ARCHIVES PROJECT

Senator MCCLURE. During the House Interior Appropriations Subcommittee markup on the fiscal year 1986 bill, an additional $135,000 was included for the Council. This money was provided to identify document and reserve material damaged at a National Archives warehouse, which was flooded.

Will $135,000 be enough to preserve this material, or will this be only enough to inventory the damage?

Mr. NAFTALIN. First of all, I should say—may I back up one sentence to say, Mr. Chairman, that as a loyal civil servant, that item is not in the President's budget, and my job is to defend it, of course, the President's budget. But of course, since you have asked the question, and I'm aware of the project, of course, I will answer that question.

The amount of $135,000 is envisioned as one-third of a 3-year project, developed jointly with the staff of the National Archives. Its principal emphasis is to survey the damage and survey the value of the documents that are there, but also to do the immediate repair necessary and restoration of the most damaged documents.

There will be a much broader activity, which would be a follow on after we've identified the nature and degree of the problem.

Senator MCCLURE. First of all, it will only survey the damage. It will try to determine the value of the documents and repair some of the documents.

Mr. Naftalin. Yes; repair those documents that are in the greatest danger of disintegration, of course.

Senator McClure. Do you have any estimate of how much would be necessary to preserve the material, so it could be put into the museum?

Mr. Naftalin. The entire collection? No, sir.

Senator McClure. I guess I am curious and perhaps a little bit more than just curious asto how a warehouse containing material of this kind came to be flooded.

Could you describe those conditions?

Mr. Naftalin. The best I know about that is what I've heard from Mr. Talisman. It happened a year or two before I came on, 3 or 4 years ago.

My understanding is that there was—that the documents at the time were housed in the Old Torpedo Factory in Alexandria, and that there was water seepage that got into a section of the building and affected some of the documents that are of interest to us. They are not in that kind of jeopardy today. They have been moved into the fully protected space at the National Archives, along with other agencies, at Suitland, MD, and they are not in any immediate danger of any catastrophic assault of that type. But nonetheless, all of this material from that period had a variety of problems, including the kind of paper that was used during the war that is subject to deterioration faster than today.

There was no Xerox-type equipment being used, so that the material is clearly at risk.

We don't know exactly the extent of it. Mark Talisman went through there and was very concerned about it and alarmed. I myself have not.

Senator McClure. You mean through the Suitland facility?

Mr. Naftalin. Yes; Mr. Chairman, if I could correct me. My colleague reminds me that in the third year of our 3-year program, there would be a major preservation effort, not merely the Band-Aid that I suggested. I was thinking more of the first year.

Senator McClure. So the $135,000 is just the first step in a 3-year process, and the back end, the end of the period will have the large expenditure associated with the document; am I correct?

Mr. Naftalin. Yes, sir.

Senator McClure. And you don't have an estimate of what that might be?

Mr. Naftalin. $135,000 for each of the 3 years would take care of the major emergencies. What we do not know is the broader question of the extent of the important documents that are discovered and what we would do with respect to making them available at the museum.

That is kind of an open-ended number that we just have no way of estimating until the first 3-year effort is complete.

DESIGN APPROVAL

Senator McClure. Let me direct a question to Mr. Notter that I directed to you earlier. The preliminary response, might I say, the response to the preliminary design is mixed.

Have you had difficulty at all in following the criticisms and responding to the criticisms of the original design? Was that a major problem to you, or has that been accommodated fairly simply, if, indeed, it has been accommodated?

Mr. NOTTER. Yes, Mr. Chairman; it is actually a process that we are very comfortable with. We felt very comfortable in the process. We're really pleased with the outcome. As you know, we've been on a very fast track, in terms of developing a scheme and getting concept approval at an early stage, so that the very early designs were those that were shared with all the committees interested, in fact, something we prefer to do. So that really the criticism and comments we incorporated as we were in the process of designing rather than moving to a final solution.

It was a very open process. One that we enjoyed and one that we think makes the scheme much better. If you would care to look at the model and design later, we can show you how it has changed, but it has changed considerably in response to the criticisms which we shared as we were developing those. And we feel the current design, which has now been approved, is much better, in terms of refinement, as it should be.

Senator MCCLURE. In other words, you didn't have any real problem with the criticisms or recommendations?

Mr. NOTTER. Not at all.

Senator MCCLURE. I think in order that we might have the opportunity to look at the model rather than adjourn the meeting and then look at the model, I think I'll recess the hearing for a few minutes. We'll talk off the record as we examine the model.

Then if there are any questions that flow from that, I can go back on the record. Otherwise, I will then go back and close the hearing.

Yes, sir.

Mr. NAFTALIN. Mr. Chairman, at this point, I have an ear for how records are going to look, and I would just like to make it clear that when Mr. Notter talks about the design having been approved, he meant by the Fine Arts Commission but not by the Secretary of the Interior as yet.

Senator MCCLURE. Yes; thank you.

The committee will stand in recess.

[A brief recess was taken.]

Senator MCCLURE. Back on the record. The committee will reconvene.

I appreciate the explanation of the models and the working sketches and drawings, and I appreciate, Mr. Notter, your off-the-record comments with respect to the process and the way it has worked.

I have no further questions at this time, but I and other members of the committee may submit questions in writing for response to the record in writing.

CONCLUSION OF HEARINGS

Senator McCLURE. I thank you for your testimony today and again apologize for having created an inconvenience to you in the past in trying to get the opportunity for this hearing.

This will conclude the subcommittee's scheduled hearings on the fiscal year 1986 budget estimate submitted by the President.

The subcommittee will stand in recess.

Thank you very much.

[Whereupon, at 10:45 a.m., Tuesday, July 16, the hearings were concluded, and the subcommittee was recessed, to reconvene at the call of the Chair.]

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